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HUMAN EVOLUTION IN CONTEMPORARY COMMUNITIES

GABRIEL WARD LASKER

WRIGHT AND OTHERS have developed a theory which permits the construction of a genetic model for the study of on-going human evolution.[1] This theory describes evolution as a change in the frequency of genes in a breeding population. Four factors, which can alter gene frequencies, are visualized as interacting with each other. The resultant gene frequency change is the rate of evolution. These four factors—mutation, natural selection, accidental variation (random genetic drift), and admixture—act in different ways.

Models based on this theory have so far been little used in connection with empirical data on man. Here I can only outline one or two first steps in the application of such models. I have begun the collection of suitable data, but their mathematical analysis is an undertaking for the future.

The four factors influencing evolution do so by varying the frequency of genes in a population of interbreeding individuals. For mankind, interbreeding involves mating between members of each segment with those of contiguous segments, and hence the whole human species is involved. Nevertheless, the structure of this total population is so complex and the probability is so much greater of mating with individuals close at hand and of the same social group, that it is easier to use as a base for our model the "breeding population," the largest unit within which relatively random mating occurs. In primitive or folk cultures this frequently is more or less synonymous with the community. However small this breeding population may be, and however its boundaries are defined, there still will be patterns of mate selection within it. Although departures from random mating are usually unimportant in their effects, in special cases the effects of incest tabus or, more

1 Wright, 1932.

especially, inbreeding may be significant enough to be considered as a fifth evolutionary factor.

With the "breeding population" defined as limited to the community within which most mates are found, it becomes necessary to further qualify the term. Only persons who become parents have significance for evolution. Furthermore, the variability in number of offspring still further reduces the size of the "effective breeding population," which is, thus, only a fraction of the size of the community. For the purposes of our model we may calculate the size of this effective breeding population and represent it with black and white marbles in the ratio of some gene frequency—such as the ratio of genes for M and N blood groups (and these frequencies can be hypothetical or observed ratios).

Now we come to the question of a unit of time. The most available one is the generation, and this will have to suffice, but it is well to bear in mind that in man there is considerable overlap in generations—one can recall cases where uncles or aunts are younger than their nieces and nephews. This factor, however, is ordinarily not of sufficient moment to prevent our ignoring it in a preliminary model.

Shall we assume that our population is demographically stable: deaths and emigration equaling births and immigration? What shall we add to, or subtract from, our stock of black and white marbles that represent the ratio of a gene and its allele in the population?

First there is mutation. Mutation rates have been estimated for some human genes. However, I know of no satisfactory estimate in man for a mutation rate for two alleles at the same locus. The best we can do, then, is to assume that the mutation rate for the various alleles is equal. Mutation, therefore, would tend to maintain both alleles in the population and, in the absence of other factors, would tend to give a 50-50 gene ratio. In small breeding populations mutation rates of the order of one per 1,000,000 or one per 100,000 would be of little consequence in any case.

Second, consider natural selection. Here actual evidence for human subgroups is still wanting. Most hypotheses concerning adaptive advantages of one or another racial type are *ex post facto* explanations of observed distributions. Natural selection must be at a maximum when very different species are considered; it must be at a minimum between closely related groups, for they differ in only a few and adaptively unimportant traits. Selective survival may be important in respect to genes associated with pathologies and maladaptations, but it is so far unrecognized in empirical studies of human race formation. At some time we may achieve useful estimates of natural selection of individuals in respect to genes now thought to be adaptively neutral. But for man "natural" selection is largely overshadowed by the importance to survival of cultural factors. For the present purpose, no esti-

mate of the effects of natural selection in man will be attempted. Instead we ask: "In the absence of adaptive advantage or disadvantage, what is the likelihood of a changed frequency of an inherited trait in the population?"

This brings us to the third and fourth factors: genetic drift and admixture, influences for which I shall now attempt quantification for some human groups.

In a previous preliminary note I made an estimate of the possible effects of genetic drift and admixture in a Mexican town, Paracho.[2] Subsequently, in the summer of 1952, my wife, Bernice Kaplan, and I made a complete census of the town, and more accurate estimates are therefore now possible. Through the coöperation of Charles Leslie, an anthropologist resident in another Mexican town—Mitla, Oaxaca—we have also collected some data there. Some comparable information for other communities is available in published sources. It is well to bear in mind, however, that the reported figures are not all of equal reliability even when the appropriate demographic data are presented or can be derived. Our own experience in collecting additional material in a town we had previously surveyed shows that estimates may be in considerable error.

The revised estimate of the total breeding population of Paracho is approximately 1,555. It is larger than I had thought. This represents the total number of parents living with their offspring in Paracho in 1952. One might increase this estimate because of the omission of parents whose children have left home and of those parents who have separated.[3] On the other hand, the estimate of the number of parents might be reduced because in its present form it includes persons of all ages and it spans more than a generation. Any lack of randomness in choice of mates also would have the same effect as reducing the effective size of the breeding population. We may calculate the breeding population in another way more comparable with that which we have previously used. It yields a similar result. Estimating, as previously, 39% of the total population to be married and 90% of those married to be parents, one would have 35.7% of 4,593 persons as parents, that is, 1,640.

To get an estimate of the *effective* size of the breeding population one also needs to know the variance in number of gametes contributed to the next generation. Previously, we have attempted to estimate this on the basis of the total number of children born to a sample of parents interviewed in 1948. It seems to me, however, that (as children who die and those who leave the community do not

2 Lasker, 1952.

3 Of the 245 cases where one parent only is recorded, it is the mother in 216 cases, and the father in only 29. This is not only because of the higher death rates for adult men and earlier age at marriage for women, but also because of the absence from the community—chiefly as temporary laborers in the United States—of large numbers of the men.

enter into the breeding population of the town) such an estimate would set an upper limit, while the number of children living with the nuclear families in our census of 1952 gives a more reasonable estimate. This figure for mean family size is 3.4 with a standard deviation of ±2.10.

Following the same formula as that previously used, $N=(4N'-2)/(\sigma_k^2+2)$ in which N′ represents the number of parents and σ_k^2 represents the variance in number of gametes contributed to the next generation, one gets the effective breeding population equal to 967. The effective breeding population is thus roughly only $^1/_3$ of the total population.

Applying to the Paracho data the formula for random genetic drift, $\sigma_{sq}=\sqrt{q\,(1-q)/2N}$, one would get ± 1.1 for genes with frequencies most subject to this factor (i.e., for genes with a frequency, q, of 0.5).

As in my previous estimate of admixture into Paracho, the method of estimation followed is to take the place of birth of both parents of individuals now living in the town. This means that the parents get recounted for every surviving child, a fact tending to eliminate any inequalities there may be in parental fertility or infant mortality between the new families and those previously established in the community. For all individuals *living* in Paracho in 1952, 34.9% of the parental element was from outside Paracho and 4.8% were in question.[4] However, of 3,390 individuals *born* in Paracho, both parents were born elsewhere in 315 cases, and one parent was born elsewhere in 741 cases. Thus the parental element is from outside Paracho in 20.2% ($\frac{741}{2}$ + 315 of 3,390 individuals). Another 2.4% of the parental element was in question (place of birth not given by the census respondent).

Mitla is a town similar in size to Paracho but contrasting with Paracho in that it is essentially self-sufficient in food production and seems to have greater population stability. Leslie says that a census of Mitla made in late 1953 lists 2,951 people and that one taken in 1949 listed a population of 2,690.[5] Records of marriages for 1918, 1924, and all years since 1927 (except 1951) were examined in the town hall. Not all marriages in Mitla have been registered. Nevertheless, the registered marriages seem to represent a cross-section of the established unions with, perhaps, some over-representation of wealthier individuals and of long-

4 In the previous estimate based on a sample of the adult residents, we calculated a rate of 23% admixture. This figure is lower than the present one calculated on the same basis but using a complete census of the town. The probable reason is that the 1948 sample of residents was not entirely random in respect to birthplace; those who had come to Paracho recently were probably not considered by our local informants when the lists of names from which we worked were compiled.

5 Charles Leslie, personal communication.

standing unions (registration often takes place years after the establishment of a union). There is, however, no reason to expect bias in respect to recorded place of birth. Of 1,064 persons whose marriages are recorded in the registry in Mitla, 202 (19.0%) were born in places other than Mitla (and the place of birth of 45, 4.2%, is not given). This 19% includes, however, couples living in nearby places where no marriage registry exists and who are not, properly speaking, members of the Mitla population. A more useful estimate of the immigration into Mitla is obtained from the data given on place of birth of parents of those married. Of those stated to be born in Mitla for whom the birthplace of the parents is also given, only 41 (3.5%) of 1,173 were born elsewhere. This is possibly an underestimate as this datum was not always registered, and selective factors may have been involved; birthplace of mother was not recorded in 182 cases and that of father was not recorded in 273 cases. Not infrequently the identity, let alone the place of birth, of the father was recorded as unknown. In any case, the rate of admixture is less than that for Paracho.[6]

A rate of immigration intermediate between that occurring in Paracho and that estimated for Mitla has been reported for several other Middle American communities. Tzintzuntzan, a town of 1,231 persons has, according to Foster, 145 (11.78%) residents born elsewhere. Foster says, "A high degree of inbreeding appears to characterize Tzintzuntzan, which must be reflected in homogeneous physical type; adequate measurements to verify or disprove this hypothesis are lacking."[7]

Brand gives immigration data for the *municipio* (county) of Quiroga. In 1945, 713 (22.56%) of the 3,161 inhabitants of the *cabecera* (county seat) came from other parts of the *municipio* or from elsewhere.[8] Unfortunately data are not given separately for each of the small populated, outlying *ranchos* of the *municipio*, but together they had 998 individuals of whom 82 (8.22%) were reported as born elsewhere. As there were also 21 individuals living in a different *rancho* from that in which they were born, the average *rancho* would have $\frac{998}{6} = 166$ individuals of whom $\frac{82+21}{6} = 17.17$ (10.34%) are immigrants—a very low rate for such small communities.

Kelly and Palerm give some data for two Totonac communities.[9] There were 1,102 persons in the 186 families which—by reason of place where communal

6 Parsons (1936), writing of the situation in Mitla over twenty years ago, cites one of her informants as estimating that one in every thirty residents was an immigrant.

7 Foster, 1948.

8 Brand, 1951, Tables 18 and 19, pp. 81 and 82.

9 Kelly and Palerm, 1952, pp. 59-65.

service is given—pertained to Tajín in 1948. Of 354 heads of families and their wives, 104 (29.4%) were born elsewhere. Of the 777 persons in Aguacate, on the highway to Tuxpan, 498 speak Totonac and of the latter 114 (22.9%) were born elsewhere.

The rate of admixture in a Guatemalan Indian community can be adduced from Tax's data.[10] Like Mitla, Panajachel is dependent on agriculture and trading. Tax reports that of about 780 Indians in the town, 688 might be called Panajacheleños "having at least some Panajachel blood or family connections." Of these, 7 men and 25 women were from elsewhere but were married to Panajacheleños, and 1 man and 3 women from elsewhere were related in other ways. Thus the immigration rate would be 36 per 688 = 5.23%. In addition 92 other foreign Indians were living within the confines of the community and if these were included in the estimate (as they should be if their children become full members of Panajachel) one would have 92 + 36 per 780 = 16.41% immigration.

Tax reports that there are also approximately 400 *Ladinos* living in the same town. They may be presumed to have a much higher rate of admixture: the very term *Ladino* implies mixture of Indians with descendants of the Spanish. To the extent that some of the local Indians may have local *Ladino* fathers, therefore, the estimates of the admixture rate given above for Panajachel Indians should be revised upward.

In the other cases, we have assumed that all persons living in each of the places are members of a single breeding community. However, any "structure" of the breeding population within the community (with more or less endogamy of smaller social units) has the effect of further restricting the size of the effective breeding population. Paracho lacks sharp racial distinctions and caste-like endogamy is not involved in the breeding pattern.[11] The same is probably true of Mitla—but we did exclude data on two Protestant missionaries whose marriage was recorded in the Mitla town hall.

In the cases cited, except for Panajachel, the breeding community is not smaller than the town, but is it larger? Apparently not. The contrast between *cabecera* and *ranchos* in Quiroga and the rarity of intermarriage is paralleled in our own experience of the relationships between the *cabecera* of Paracho and its dependent villages. In contemporary Middle America it appears to be usual that the populated place, whether *rancho, pueblo,* or *cabecera,* is coextensive with the breeding community.

For simple communities in other parts of the world a few data on admixture are available.

10 Tax, 1953, p. 8.
11 Kaplan, 1953, and Lasker, 1953.

Spier collected demographic data on a well-nigh aboriginal American Indian group, in 1918-1921.[12] He states that marriages were not often contracted with foreigners. "The situation today," he wrote, "represents the condition fairly well: there are six Walapai women and one Yavapai married to Havasupai, while a few natives are wives of Walapai. . . . I was told that Hopi women were never married, but Cushing saw one there in 1881. Occasionally Paiute and Navaho women were married." Spier lists 43 females over the age of 18 in his Havasupai census of 1919. If we assume that the seven non-native women were among these, and that the Havasupai women married to Walapai were not counted, then 16.3% of matings were with outside women and the admixture rate was 8.1%. Spier also tabulates 67 marriages past and present. Of these 8 were with Walapai, two with Yavapai, 1 with a Paiute. These yield a rate of 14.9% of marriages with outsiders and 7.5% intermixture.[13]

Spuhler and Kluckhohn state that for 317 fertile matings of Ramah Navaho between 1820 and 1948, 35 (11.1%) involve a mate from outside the Ramah population; this is an admixture rate of 5.6%.[14]

In another contemporary American Indian town, by contrast, Jones found a very high rate.[15] Chuichu, Arizona, is a Papago community of 223 people, 52 of whom had migrated there within ten years; of 12 recent marriages 11 brought in an individual from outside.

Oberg says of some of the most isolated groups in Brazil: "It must be mentioned at the outset that a certain amount of intermixture has taken place among the Upper Xingú tribes for a long time. Among the 110 Camayurá were 5 Suyá women captured in raids, two or three Waurá women and one Mehinácu woman . . . obtained in marriage, three or 4 Waurá men who had married Camayurá women, and two Juruna men . . . who were brothers, had been captured when boys from the Suyá who in turn had taken them from the Juruna."[16]

Tindale concludes, from a study of various Australian aboriginal tribes, that 7% to 21% of marriages contracted prior to appreciable White influence are intertribal; this gives an average admixture rate of 7.5% for the widely scattered tribes which he studied.[17]

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12 Spier, 1928.

13 In a private communication Spier suggests that such estimates may be somewhat low for one can never know the number of illicit unions with visitors. He says that in the case of the Havasupai other Indians came very infrequently and Whites practically never. He thinks that if we just double the number of outside marriages we would take care of this situation.

14 Spuhler and Kluckhohn, 1953, p. 301.

15 Jones, 1953, pp. 191-192.

16 Oberg, 1953, p. 15.

17 Tindale, 1953, p. 186.

It is interesting to speculate whether admixture rates for communities of small or moderate size are sufficiently low for a random genetic drift free enough from the offsetting factor of admixture to be important in race formation. In island communities such as Pitcairn and Tristan da Cunha the admixture rate may be low enough and the breeding population small enough for random genetic drift to be important, at least for a limited number of generations. However, the opportunities for a subsequent rapid expansion of population and establishment of a racial type as a result of the previous genetic drift would seem minimal on small islands. Whether small dependent communities like Quiroga's *ranchos* could provide for such drift and expansion would seem worthy of further investigation.

Table 1 summarizes the estimates for rates of genetic drift and admixture. As only the data for Paracho was collected for this purpose, the other estimates are not of equal value. Calculation of the effective size of the breeding population in the other communities (and hence the estimate of rates of random genetic drift) is based on the assumption that the variability in average number of offspring is the same as that adduced for Paracho. This assumption is only justified for crude estimations. The excess in family size above that for a stable population (3.4 rather than 2) is at least in part ascribable to the fact that Paracho is growing. For the rest, the excess is due to the form of the census—the size of the nuclear family having been determined rather than the number of adult offspring achieving marriage. With stable or decreasing populations the family size would be smaller, smaller families would be less variable, hence the size of the "effective breeding population" would be larger. The values given for random genetic drift in Table 1 therefore may be somewhat overestimated. The findings shown in Table 1 give no reason to suppose any simple relationship between size of the breeding population and rate of admixture. Birdsell, speaking of the aboriginal tribes of Australia, says that tribal boundaries are primary barriers to intermixture, but that the remnants of decimated tribes are sometimes absorbed by others.[18] Oberg mentions that one of the tribes of the Upper Xingú in Brazil, the Iwalapeti, number 28 persons but have no village and live scattered among other tribes; they plan, however, to rebuild their village.[19] This mechanism making for a minimum limit to the possible size of a group may be less—rather than more—apparent among sedentary agriculturists, for the tiny *ranchos* of Quiroga are reported to maintain moderately low admixture rates.

From our limited sample of communities there is no clear correlation between rates of admixture and cultural level. The nomadic Australians, the semi-

18 Birdsell, 1951, p. 280.
19 Oberg, 1953, pp. 4, 44.

TABLE 1

Demographic data and evolutionary factors

	Community size	*Effective size of breeding population*	*Rate of random genetic drift per generation for a gene with frequency of 0.5*	*Percentage of individuals born elsewhere*	*Rate of admixture*
			%	%	%
Paracho, Michoacán *(cabecera)*	4593	967	±1.1	34.9	20.2
Quiroga, Michoacán *(cabecera)*	3161	665?	1.4	22.6	22.6?
Mitla, Oaxaca	2951	621?	1.4	19.0?	3.5?
Tzintzuntzan, Michoacán	1231	259?	2.2	11.8	11.8?
Tajín	1102	232?	2.3	29.4	29.4?
Aguacate	777	163?	2.8	22.9	22.9?
Panajachel, Guatemala	688-780	145-164?	2.8 to 2.9	16.4	5.2?
Ramah Navaho	614-634	129-133?	3.1	4.9	5.6
Havasupai	177	39	5.7	—	7.5-16.2
Australian Aborigines	100-1500	20.7-316?	2.0 to 7.8	—	3.5-10.5
Ranchos of Quiroga	133 average	28?	6.7	10.3	10.3?
Camayurá, Brazil	110	23?	7.4	11.8-13.6	11.8-13.6?

The figures which are questioned represent rough estimates. See text for description of methods and assumptions involved.

agricultural Havasupai, the pastoral Navaho, the *rancheros* of Quiroga, the truck farmers of Panajachel, the farmer-fishermen of Tzintzuntzan, and the farmer-merchants of Mitla have low rates of admixture. Apparently in some towns with specialized small industries and highly developed trade (Paracho and Quiroga) and even in agricultural towns, if their structure is less cohesive (Tajín and Aguacate), a higher admixture rate may prevail. One would like to learn more about the population size and exogamy rate of additional communities of various types.

One other assumption, concerning the connection between the racial evolutionary genetic model and the empirical data available, is that admixture does not greatly alter the genetic composition in the area from which subsequent admixture will come. This simply means that those marrying into a town are assumed to come from varied and widely distributed communities and not just from a few small dependent villages.

In the cases cited this assumption seems well founded. Migrants to Paracho have come from over 175 places, half of them over 50 km away. The 41 immigrant parents of persons born in Mitla have come from 16 places, half of them over 20 km from Mitla. Of the 145 immigrant residents of Tzintzuntzan, Foster reports that 91 were born within a radius of 15 km, 46 others were born in the state, and 8 were born in other states of Mexico.[20] Similarly, for the county seat of Quiroga, 135 of the persons came from the *ranchos,* 4 from other villages of the *municipio,* 389 from various adjacent *municipios,* 134 from other places in the state of Michoacán and 56 from elsewhere. For the *ranchos* of Quiroga, 18 were from the town, 21 from another *rancho,* 59 from adjacent *municipios,* and 5 from elsewhere.[21] In the case of Tajín the migrants came from at least 27 different places, and although these were all Totonac places, some of the parents and grandparents had come from non-Totonac communities. In the case of Aguacate, Kelly and Palerm list 23 other places of birth and state: "Here again we have the impression that the local population is in a considerable state of flux, but that the essential elements are all Totonac, from the lowlands about Papantla."[22] Although most of the admixture of Havasupai was due to matings with Walapai, four other tribes are also mentioned by Spier as occasionally involved.[23] According to Kluckhohn and Griffith, 90 persons born in Ramah had one parent from elsewhere. The parents were Navaho from various other groups in 70 cases, and in the remaining cases they came from 6 other tribes.[24] The 13 to 15 persons of other

20 Foster, 1948, p. 30.
21 Brand, 1951, pp. 82-83.
22 Kelly and Palerm, 1952, pp. 63-64.
23 Spier, 1928, p. 225.
24 Kluckhohn and Griffith, 1951, p. 406.

tribes living among the Camayurá came from 4 tribes, only one of which is one of the friendly neighboring groups, while approximately half the outsiders are captives of war.[25] For the Australian aborigines, too, each group for whom any quantity of data is available, usually has instances of intermarriage with more than one group, and there is frequent mixture between non-contiguous groups.[26]

In conclusion, I should like to urge the collection, from a variety of human populations at different cultural levels, of data on size of the breeding population and rates of admixture. In conjunction with estimates of mutation rates and hypotheses concerning rates of natural selection, the genetic model now available should permit the elaboration of a theory of rates of human evolution. Such a theory would be independent of estimates based on the fossil record or on counts of changing frequencies of characteristics in contemporary or recent peoples; it provides a new method of approach to the problem.

SUMMARY

In various Middle American communities residents born elsewhere range from about 5% to at least 35% of the population. Rates of admixture may range from 3.5% to 21%. Population size for the communities studied ranges from 110 to 4,593 and the size of the effective breeding populations is probably only one-fifth of this. Random genetic drift in populations of this size may vary around 1% to 8%. There is no inverse relation between community size and rate of admixture, and even small communities may be largely endogamous. Immigrants usually come from enough different and sufficiently distant places so that, for present purposes, the immigrants reasonably can be assumed to be drawn from a population approaching infinity in size. Under the assumption of negligible natural selection and mutation, the effect of such demographic facts on human evolution (through random genetic drift and admixture) is determinable. Calculation of theoretical rates of evolution over many generations on the foregoing basis would afford an estimate independent of those based on the fossil record or on changing frequencies of characters in contemporary and recent peoples.

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THE TRADITIONAL POLITICAL SYSTEM OF THE YORUBA

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MANY TRIBAL SOCIETIES have a form of government in which the unilinear descent groups play an important part; but the position of the lineages in the more highly developed kingdoms has rarely been adequately stressed. Attention has been drawn to the intricacies of the governmental structure and to the complexity of the ceremonies and ritual surrounding chieftaincy and kingship. In far less detail is it described how the members of the government are chosen to occupy their positions or what is the constitutional relationship between them. It is in the West African coastal kingdoms in particular that the lineage system plays a vital role in the relationship between the government and the mass of the people.

In their introduction to *African Political Systems,* Evans-Pritchard and Fortes divided the societies described into two groups.[1] One group had government—centralized authority, administrative machinery, and judicial institutions—in which power corresponded with wealth and status. The framework of these societies was the administrative system; the societies described were amalgams of different peoples; their rulers controlled an organized force to uphold their authority. Such were the kingdoms of the Southern Bantu. The other set, typified by the Nuer and Tallensi, lacked government in the above sense; there were no sharp divisions in rank, status or wealth; the lineage structure was the framework of the political system. This classification clearly separates the societies in this book, but being largely descriptive rather than analytical it lacks the precision necessary to deal with societies falling between these broad groups, and particularly those of coastal West Africa, such as the Yoruba in their numerous kingdoms each with a slightly different political structure. It is often difficult to define when government begins, for the possession of centralized authority, administrative machinery, and judicial institutions can be ascribed to quite simple structures such as those of the Kabba Yoruba. The differences between the societies described in *African Political Systems* were overstressed since those writers dealing with the centralized kingdoms largely ignored the place of the lineage system in these societies, while those dealing with the simpler societies discussed little else.

Realizing the importance of the lineage system in West African societies, Dr Paula Brown classified them according to the presence or absence of lineages,

1 M. Fortes and E. E. Evans-Pritchard, eds., *African Political Systems* (London, 1940), pp. 5-15.

associations (such as age grades and title societies) and the state in the political structure.[2] Four categories emerged: the societies such as the Tallensi whose political structure is based on lineage alone; those such as the Ibo which have lineages and associations; those where lineages, associations, and the state are found together as with the Yoruba and Mende; and finally those where lineages and associations play a negligible part but where the state is supreme, Ashanti, Dahomey, and Nupe being examples.[3]

Her definition of the lineage and its internal organization is conventional. In discussing the role of age grades and sets and title societies such as the Yoruba *Ogboni* and Mende *Poro* she filled a gap in earlier classificatory systems. But her definition of an association, "an organised and corporate group, membership in which does not follow automatically from birth or adoption into a kin or territorial unit," is applicable to the supreme council of chiefs in her state, as well as many other groups therein. The state is again not defined but described—it has administrative hierarchies, district organization, chiefs and kings with agents and advisers, courts at different levels in the structure, and mythical and ritual support for political supremacy. It is clear from the context that she is thinking of the well-known characteristics of West African kingdoms, but such features, if taken to their simplest level, are not confined to states but to any political unit sufficiently large for leadership not to be confined to one man. The implication is that the state has these features in greater quantity but what the quantitative limits are to be is not mentioned. Thus the two categories used—association and state—overlap, and both are wide and vague in the extreme: they provide a useful opportunity for discussing some features of different societies but they are inadequate as a basis for classification.

The feature neglected in so many of these descriptions of tribal political systems is the constitutional relationship between the various institutions and associations which comprise the system. Thus, in the case of the Yoruba kingdoms, the most important component parts of the political structure are the lineages, with their own internal structure and organization, the various forms of age grade and set, with or without an associated grade of chiefs in charge of the sets, the title societies in which one may rise from the lowest to the highest level by payment of fees and title-taking, the councils of chiefs whose titles are often vested in individual lineages, and kingship. In each such institution one must know how a man joins or how a man is chosen to assume a title, and on what conditions he holds the office. One must know the chain of authority in the political system by which the

2 Paula Brown, *Patterns of Authority in West Africa* (Africa, vol. 21, pp. 261-278, 1951).

3 Dr Brown's work is often marred by the use, unfortunately inevitable, of poor ethnographic data.

opinions of the people are transmitted to the government and by which the decisions of the legislators are transformed into administrative action and finally executed. One must know how far the decisions of one body are binding on others and wherein lies the ultimate power of assent or veto.

I propose to describe here four types of Yoruba political structure, stressing these features and ignoring most others. This is scarcely novel, being the method used by constitutional lawyers for centuries. The conclusions reached, being from a limited range of societies, will not lead immediately to a new classification of political systems; wider comparison is essential. The method, however, may be of value.

Writers on the Yoruba have often caused confusion by their unawareness that the various sub-tribes have widely differing political constitutions. In the absence of good studies of any one sub-tribe, they have tended to produce a composite system, comprising elements from different sub-tribes which are not found together in practice. This is an easy error: the same symbols of office are used by men whose offices are constitutionally different. A common set of titles is found in almost all sub-tribes, Oyo being the principal exception.[4] The term *iwarẹfa* is applied in Kabba to the chiefs of the senior title grade, in Ekiti to the senior lineage chiefs, in Ijebu to the senior chiefs of the *Ọṣugbo* society. The same cultural traits appear as the embellishments of widely differing constitutions.

This study is of the traditional political structure, not of its modern forms.[5] This involves one in reconstruction of institutions now far decayed. Decay has gone farthest in the various title societies. The age grade system which provided warriors proved useless to wage the nineteenth century tribal wars. The title societies were usually ignored by early British administrators who did not recognize their political importance. Deprived of a place in the constitution, they became mere social institutions which most Christians refused to join because of the ritual of the admission ceremonies, and Moslems outlawed because of the Koranic injunction against joining secret societies. Conversely, virility has been maintained in those institutions still exercising control of government and of land.

THE KABBA YORUBA OR OWE

The Yoruba of Kabba Province are in the extreme northeast of Yoruba country. They were composed of several small and independent sub-tribes, between which there were fewer differences in culture than between the group as a whole and neighboring sub-tribes. Kabba town is now the Divisional headquarters and is peopled by the Owe sub-tribe whose constitution is outlined here. The popula-

4 Examples of these common titles are *aro, osa, ẹjẹmu, ɔdɔfin,* etc.

5 I.e. of the political structure of the mid-nineteenth century.

tion of the Kabba District, which is the modern administrative unit embracing the Owe people, is 15,000; the population of Kabba town is today 7,300.

The legends of the Owe people tell that their founder came from Ile-Ife, the cradle of the Yoruba, though, unlike other Yoruba, they do not seem to embellish this statement with explanations of how and why he migrated. This man had three sons who founded the adjacent towns of Kabba, Dolu, and Katu. Kabba is now much larger than the other two towns, having been used by both the Nupe invaders of the nineteenth century and the British as their headquarters. The founder of Kabba had three sons, the descendants of each of whom divided into two groups, so that there were six unilateral kinship groups in the town, each of which lived in territorially adjacent compounds and possessed distinctive lineage names. These three towns remained the main settlements of the Owe people, and although some built homesteads and small villages at their farms these had no administrative significance and people remained for political purposes members of their own town and lineage.[6]

At the head of each lineage was the *olori ɛbi* or eldest man. Regular meetings of lineage members are said to have been held, at which matters affecting lineage members and their disputes, the organization of the compound and the control of farm land were discussed. Each extended family—a group of persons descended from a man recently deceased and probably living around one courtyard of a compound—also had its *olori ɛbi*. It was suggested that all these *olori ɛbi* met together at regular intervals, although it was not clear what they discussed and whether their field of jurisdiction differed markedly from that of the title grades. In any case most *olori ɛbi* appear to have been members of one of the three senior grades.

The grades through which a man passed to reach the senior titles began as untitled age grades associated with a youth's economic status. The first grade was known as *olusele*. Boys entered at the age when they began to work on their father's farm. At the annual admission ceremony new entrants accompanied the already initiated to the bush, where the new entrants shared bananas among his seniors. The boys flogged each other with lighted torches of grass and then danced through the town to the senior chief. The second grade was entered when a boy reached puberty (or when he was of marriageable age, opinions now differ). Previously he had worked entirely on his father's farm. Now he was ready to start his own small farm on which he would work half the week in order to feed himself. Entry into this grade consisted solely of the entrant being accompanied by three or four kinsmen from the grade, and asking his father for a full-sized hoe. It would

6 I use the term lineage for convenience; it differs from the lineage in other Yoruba towns.

appear that all young men passed into these two grades on reaching the necessary age.

The first title grade was known as *igɛmɔ*. On reaching this a man no longer worked on his father's farm. The would-be entrant went first to the three members of the senior title grade to notify them of his wish to enter the grade, and to pay a fee. He also named his title, there being no fixed titles. Later, after another fee, the senior chiefs conferred the title and the existing members of the grade laid their *ɔpa* staffs on the ground, made a sacrifice and prayed for the new entrant. Throughout the week the new member feasted the older members of the grade. Membership of this grade conferred the right to use the *ɔpa* staff and also a red cap. The number of *igɛmɔ* titles was unlimited and although it is said that some men never became members, it was believed that most adult men did in fact take titles.

Entry into the next grade—the *orota* grade—was by a similar process, the fees being approximately double those of the *igɛmɔ* grade. Membership gave the titleholder the right to use a special stool *(apopo)*, to wear a beaded hat and beads round the neck, to have a much more ceremonious funeral than other men, and to be relieved from farm work. There was a fixed number of *orota* titles and a man could only take one after the death of a previous holder. The traditional ranking order of these titleholders is now uncertain, but it was probably determined by the length of time the title had been held.

The senior grade is that of *ololu* (sometimes known as *iwarɛfa*). Among the Owe there were three titles in this grade, *ɔbaro, ɔbajɛmu, and ɔbadɔfin.* The Nupe invaders made the Obaro of the mid-nineteenth century into a district head over all the Owe under their own system of indirect rule. Later the British continued the process, trying at one period to make him Emir of all Kabba Division! From the Owe legends and from examination of the neighboring sub-tribes, whose senior grades were less affected by these changes, the traditional (in this case pre-Nupe) custom appears to have been as follows. The three titles were of equal status; one had to be held in each of the three Owe towns, though not necessarily the same one each time; the titleholders were elected to the position by the members of the *orota* grade, heavy fees being paid by the candidates to the electors. The *ololu* chief could wear coral beads on his wrist and ankles and sit on a leopardskin. His installation consisted of small ceremonies and feasting, though not giving him the same ritual position and authority as those of a Yoruba king.

The government of the Owe was conducted by the *ololu,* who, it is said, could do nothing except on the advice of the *orota,* who in turn were advised by the mass of adult men—the *igɛmɔ*. The *igɛmɔ* held separate meetings from those of the *ololu* and *orota*. Each grade of titleholder had special ritual duties in connection with the town's major deity, Ebora. The functions of government appear to have

been but crudely divided between the different groups of titleholders; the *ololu* and *orota* made the decisions, the *igɛmɔ* executed them.

Although wealth appears as the prerequisite of membership of the higher title grades, it must be remembered that Kabba was, and still is, economically backward; slave-owning was rare and the people were more raided than raiders. Opportunities for the accumulation of wealth were limited to hard work and the possession of sons. There does not appear to have been any restriction of title-holding to a small semi-hereditary group.

THE EKITI

The sixteen Ekiti kingdoms are located in the east of Yoruba country. Ado is the largest, with a population of 62,000 persons. Ado Ekiti, the metropolitan town of this kingdom and now the Divisional headquarters, has a population of 24,000 persons, but the town consists of three adjacent settlements each with its own chief but acknowledging a common ruler, the Ewi. The largest of these settlements, Oke Ewi, the seat of the Ewi with a population of 14,000 people, is described here as an example of the Ekiti type of political structure.

The Ewi traces his descent from a royal prince at Ile-Ife, who, it is claimed, left this town and travelled to Benin with the Oba of Benin, only to leave him later and retrace his steps. At Ado he and his followers met some people, but these either submitted peacefully or were conquered and their descendants form one lineage in Odo Ado, the large settlement adjacent to Oke Ewi. Today there are fifteen lineages in Oke Ewi besides that of the Ewi himself; the elders of some of these claim that their founders travelled with the Ewi, those of others cite the towns, usually in Akoko country, from which their founders came. Oke Ewi is divided into five quarters, one of which, Irona, is of more recent creation than the remainder. Each quarter has the compounds of one or two large lineages together with those of two or three smaller ones. Compounds of segments of the royal lineage are found in each quarter.

As in other Yoruba towns, the male members of the lineage lived in a single, or adjacent, compounds. The lineage head *(olori ɛbi)* was the oldest male lineage member; he succeeded to his position without ceremony on the death of the previous holder. He presided over the lineage meetings held in his own part of the compound, at which matters affecting the lineage were discussed. The lineage was a gerontocratic institution: disrespect to an elder was punishable by a fine of palm wine or kola nuts to be consumed at the meeting. The lineage head had, however, little more than moral authority over his members.

In Ekiti every man belonged to an age set *(ɛgbɛ)*; these had primarily social functions. They were constituted informally every two and a half to three years

when the boys concerned reached the age of nine or ten years. Thus brothers (unless twins) could not be in the same *ɛgbɛ*. Each set received a name from the Ewi, usually denoting some historic event. It had an acknowledged leader who achieved this position by his personality and not by formal appointment. At weekly meetings the members discussed the town's affairs and their personal problems. Moral pressure was put on those who offended against social codes. Members of an age set helped each other at farm work and in performing obligations to a future father-in-law.

The *otu* are a series of grades through which a man passes from childhood to elderhood. In Oke Ewi they were named *ejiwere* for young children, followed by *oriʃu, ipaiye* or *origbo, ɛgiri* or *eʃe*, and *igbamɔ agbakin* or *ijogun*. At the age of forty-five years a man became an elder, *agba ilu*. The grades each had an age span of nine years. It would appear that there were no admission ceremonies for the first two grades. To subsequent ones the entrant provided a feast for existing members; more complex ceremonies are not remembered. Passage from one grade to another was an individual affair, but it was not suggested that men ever failed to rise according to their age. The grade marked the economic status of a man from the time he started to work on his father's farm to the time when he was fully independent of his father. It also determined the public work expected from him. Youths in the second grade were strong enough only for weeding; in the third grade they could do road-making; in the fourth and fifth grades a man was available for war. An elder was relieved of public work. Age grade members also cleared shrines and collected food to be used at festivals. In some towns it was explicitly stated that a man might not take a chieftaincy title until he had become an elder. Oke Ewi has a series of titled chiefs known as *ɛlɛgbɛ* whose duties must have been related to the *ɛgbɛ*, though exactly how is not clear, since the age grade system is now almost lost and many *ɛlɛgbɛ* titles vacant. It is said that each lineage and often segments within a lineage had its own *ɛlɛgbɛ*. The nine senior *ɛlɛgbɛ* were selected from any lineage by the Ewi and chiefs, although two of the titles were reserved for members of the royal lineage. The duties of the *ɛlɛgbɛ* were to organize public work in the town, to organize the warriors at war and in defence of the town, to carry out other commands of the senior chiefs, and to voice the opinions of the young men of the town. There was in Ado a further company of young men known as *ɛfa* whose duties were the policing of the town; men were enrolled from any lineage.

The senior chieftaincy titles of Oke Ewi were divided into three groups, the chiefs of the two senior groups being known as *ihare* and of the junior group as *ijoye*. The first group of *ihare* comprised the *Olori Marun*, the five senior chiefs. The second group comprised five *ɛlɛsi* and, ranked below them, the *Ijɛgbɛ* chiefs.

All these titles were ranked in order of seniority. Four of the members of the *Olori Marun* were the quarter chiefs of the four older quarters of the town; the fifth resided, by historical accident rather than by design, in one of these quarters. These titles were hereditary in the largest lineages in the town. Many of the *ɛlɛsi* and *Ijɛgbɛ* titles were hereditary in certain lineages, the remainder being bestowed by the Ewi and chiefs on any person who was prominent in the town and also popular within his own lineage, although attempts were continually being made by holders to convert them into hereditary titles. The *ijoye* chiefs were headed by a chief whose title was hereditary in one lineage; the remaining chiefs were elected by the Ewi and chiefs, or sometimes directly by the quarter chiefs. An examination of the distribution of titles in Ekiti towns shows that where the town had a small number of lineages each had one of the senior *ihare* titles; where there were more lineages, the largest obtain these *ihare* titles but the remaining titles were shared equitably among the lineages.

When the title of a chief was hereditary within a lineage, it was usually the right of the lineage members to elect the holder. When the funeral ceremonies were completed, the Ewi sent to the lineage head inviting him to present a candidate. Such a man was elected at a lineage meeting, the predictions of the Ifa oracle being used to sway opinions and give the choice supernatural sanction. The principle that each segment of the lineage should hold the title in turn was often overlooked when one candidate received the support of the majority. The Ewi and chiefs had no right to interfere in the election except to ensure that the proper methods were carried out—a large enough loophole for intrigue. If the lineage members failed to agree upon a candidate, the Ewi and chiefs might appoint one themselves. The Ewi had the right to appoint three of the hereditary chiefs, one from each group, who by tradition had free access to his own apartments in the palace. No *ihare* or *ijoye* chief might lay down one title to take another more senior one, but *ɛlɛgbɛ* chiefs might drop their titles to assume *ihare* or *ijoye* titles. When the candidate for the title was presented to the Ewi and chiefs for their formal approval, he would commence making a series of payments to the Ewi and chiefs. The installation ceremonies of all *ihare* chiefs were performed by the Ewi; they included much feasting of the existing chiefs.

The Yoruba king *(ɔba)* was more than a chief; he was a divine king and the personification of the whole town. A crowned king traced his descent directly from Oduduwa, the creator of the Yoruba. The title of Ewi was hereditary in two segments of the ruling lineage founded by the first Ewi, the founder of Ado. These two segments were founded by the sixteenth Ewi, who is said to have reigned in the late eighteenth century. Members of segments tracing descent from earlier Ewis were not eligible. On the death of the Ewi the most senior *ihare* acted as regent but

did not sit in the palace; a woman of the royal lineage sat within the palace to control palace affairs alone. This regent invited the head of the royal lineage to present his candidates. The title rotated strictly from one segment to the other; in Ado the candidate had, in addition, to have been born while his father was on the throne, but this rule was not followed in all towns. The *ihare* chiefs discussed the merits of each man, sounded the opinions of the young men through the *ɛlɛgbɛ* and consulted the Ifa oracle. The ultimate responsibility for electing a new king rested with the *ihare*; members of the royal lineage could not overrule their choice. The installation of the Ewi, a most complex set of ceremonies, was performed by the chiefs. Whereas a chief promised at his installation to obey his king and accept the advice of his lineage members, the new king promised to rule well, acting on the advice of his chiefs. Ewi and chiefs held office for life; they could be removed only by being asked by those who elected them to take poison and die. This was of very rare occurrence in Ekiti.

Members of the ruling lineage (known as *ɔmɔ ɔba*) had no rights to any *ihare* or *ijoye* titles; they were eligible for certain *ɛlɛgbɛ* titles however. Some princes had been sent out of Ado to rule over farm settlements; these took a title from the settlement which became vested in the lineage which they founded in the settlement. These titles gave no status in Oke Ewi itself.

In the Ekiti town, meetings of chiefs and people took place at almost every level of the political structure. Opinions expressed in lineage meetings were conveyed by the lineage head to the chief within the lineage. (In the lineage meeting a titled chief ranked according to his age; his position as a chief conveyed authority in town affairs only and not in purely lineage matters.) The young men expressed their views in the age set and age grade company meetings and these were taken to the chiefs by the *ɛlɛgbɛ*. Each quarter chief held regular meetings at which all the chiefs of his own quarter attended. Each group of chiefs met separately as well as at a large meeting at which the *ihare* spoke. The Ewi remained in seclusion within the palace, receiving the conclusions of his senior *ihare* arrived at on the outer verandah of his palace, and announcing them as his own decisions. These decisions, with royal authority, were then reported to the *ɛlɛgbɛ* and the lineage heads, together with instructions for the action to be taken. The senior *ihare* remained in the palace most of the day, their duties being wholly conciliar.

The authority of the Ewi and his councils of chiefs extended to all affairs and included the administration of the town, the appointment of chiefs, war and tribute, the arranging of the major town festivals, and the judgment in the first instance of major crimes and the appeal of minor cases. There appear to have been no special meetings reserved for discussion of any one of these matters.

THE OYO

Ibadan Province is located across the geographical center of Yoruba country and contains many large towns; here over fifty percent of the population lives in towns whose population exceeds 50,000 inhabitants. This great size is due largely to the wars of the early nineteenth century, when the Oyo Empire began to crumble through internal strife and the Fulani invaders, based on Ilorin and Bida, attacked southward. The Yoruba were safe only in the forested country where the Fulani cavalry could not operate, and the inhabitants of the destroyed towns of the savana country fled to these towns within the forest. The armies of these towns were themselves continually on slave-raiding expeditions, living off the countryside which also became depopulated, the people of the smaller towns fleeing to the larger towns for protection. The size and rate of this immigration posed new problems for the government of these towns.

Iwo, one of these towns, has, today, a population of 100,000 inhabitants. These are domiciled within an area of two square miles; an urban density of eighty persons per acre. There are over 500 compounds in the town, belonging to approximately 200 lineages. The town is divided into four quarters. In one of these, Isale Oba, are found most of the compounds of the royal lineage; in Gidigbo and Oke Adan are the compounds of most of the older lineages in the town. Molete is a quarter largely peopled by those whose ancestors came to the town in the nineteenth century.

Iwo was founded by a man who was, it is claimed, a son of a woman Oni of Ife; he was driven from Ile-Ife after his mother's death in retaliation for her harshness as a ruler. He settled in several places before reaching the present site and legends say that he had collected a considerable entourage before reaching Iwo. Later immigrants came from towns in the Owu kingdom, from towns now destroyed and almost forgotten but which may have been either Owu or Egba, and, in increasing proportion in the late eighteenth and nineteenth centuries, from Oyo.

The Yoruba lineage was headed by the *bale* (father of the house), its oldest male member. Formal lineage meetings *(ipade)* seem to have been held at irregular intervals, so many lineage members living for much of the year on their farms. Ceremonies and religious festivals provided occasions for the meetings, however. As a result of the large size of many compounds, the Iwo *bale* and several other old men were usually able to remain at home, being fed and maintained by contributions from junior members. These men, sitting together on the verandah of the *bale*'s compound, composed, as it were, a permanent committee of the lineage. The powers and duties of the Iwo *bale* are similar to those of lineage heads elsewhere in Yoruba country.

There are no formal age grades today in Iwo, and little record of their past

existence can be found. The modern *ɛgbɛ* are social clubs with functions similar to those of Ekiti and Ijebu but membership is not automatic; one joins an *ɛgbɛ* of one's choice, age (within broad limits) and wealth being determining factors. Public work in the town was, however, carried out by the young men, but it was organized through the compounds. Instructions would be given to each *bale* to provide a certain number of young men to work. The chiefs supervised the work. The young men of each compound informally recognized one of their number as a leader, *olori ɔmɔle*, a position held until the man became accepted regularly into the meetings of the lineage elders at about the age of forty-five years. There were no initiations into grades, no regular meetings of members of the same grade, and no chiefs responsible solely for such age grades.

The *Ogboni* society exists today in Iwo, but its membership is very small and no old men could remember that it ever formed a constitutional part of the government of the town, as in Ijebu. The society has been attacked by Moslems and the Oluwos of Iwo have successively been staunch Moslems since the mid-nineteenth century. Within Iwo it was said that men from lineages founded by Owu migrants "knew most about *Ogboni*." (The senior civil chiefs, Osa and Aro, are such men and their titles are said to be *Ogboni* titles in other sub-tribes, though they are lineage titles in Ekiti.)

In Iwo the chiefs were divided (as in Ibadan, from which the structure may have been copied) into two groups, the civil chiefs and the war chiefs. In each group the chiefs were ranked in order of seniority of their title. Almost all these titles were hereditary in a single lineage, the legends stating that it was bestowed upon the immigrant lineage founder to "compensate him for his lost rights in his town of origin." Whereas in all towns it was held that since the title was bestowed by a king he might also take it away, Iwo is the only town described here where this does appear to have happened, and informants cite two nineteenth century cases where a title was cancelled when the holder had rebelled against the Oluwo.

The method of appointment of the chiefs, whose titles were hereditary within the lineage, did not differ from that of Ekiti and will not be repeated here.

The title of the Oluwo, of king of Iwo, was hereditary within the royal lineage. This lineage is not now segmented in the usual manner. The twelfth Oluwo, Lamuye, came to the throne c. 1830 and reigned until 1906, during which time Iwo became a powerful town and many of the trophies of war, including newly conquered land, were bestowed upon the sons of Lamuye. After his death five of his sons succeeded to the throne and it was considered that the title would henceforth be held only by the descendants of Lamuye. In 1952, however, when the title became vacant, the descendants of Lamuye could not agree among themselves, and

the title went to the descendants of the Oluwo reigning before Lamuye.[7] The appointment of an Oluwo followed the usual procedure for kingship; the senior town chief would invite the head of the royal lineage to present candidates when the chiefs in council would then debate these and make their selection.

The position of the royal lineage in Iwo appears to be unique. As in other Yoruba towns the members of this lineage were known as *ɔmɔ ɔba*; while some of them obtained titles, this gave them no position in the government of the town, and in Ekiti and Ijebu neither the members of the lineage nor even the close relatives of the king seem to have exercised authority, either informal or constitutional, in their towns. In Iwo there were two sets of royal titles bestowed by the Oluwo. In the first group all the titles belonged to members of the royal lineage. The most senior titles now belong to the sons of Lamuye. Other titles have been given to prominent men of segments descended from the early Oluwo. These titles, held for life and not hereditary, were distributed by the Oluwo on the advice of the senior titleholders in the group. Royal titles of the second group were granted to immigrants who came to the town in the nineteenth century and who put themselves under the protection of the Oluwo, their leader receiving a daughter of the Oluwo as a wife. This group was headed by Oloya whose lineage, it is said in the legends, was founded by the son of the daughter of the first Oluwo. Most of these titles were vested in the lineage of the first holder of the title, and the appointment of new holders was made in a similar manner to that of the hereditary town chiefs.

Only a small number of the lineages in Iwo were able to have hereditary chieftaincy titles vested in them. In the remainder the *bale* was the only official. The *bale* was usually responsible to the chief in charge of his quarter, that is to the senior civil or war chief in Gidigbo or Oke Adan, to Oloya in Molete, and to the Oluwo or the senior royal titleholder in Isale Oba. The remaining chiefs had no official territorial jurisdiction though they may have considered themselves in charge of the compounds neighboring their own. Ties of patronage had, however, often developed between chiefs and individual lineages; these were usually formed in the nineteenth century when refugees put themselves under the protection of individual chiefs in the town. The patron's lineage founder was perhaps from the same town as the refugees; often the patron gave land to them. The Oluwo was the largest patron, giving out land conquered in the early nineteenth century to these newcomers; other members of the royal lineage who were given control of this land also became powerful in this way. Members of these protected lineages paid tribute through their patron and went to war with him, in the same manner as members of his own lineage. Titled chiefs were elected solely by their lineage member; mem-

7 It is no longer remembered how the title was inherited before the reign of Lamuye.

bers of related lineages or lineages bound by ties of patronage had no rights to participate in the election. Thus the chiefs of Iwo were elected by a minority of the townspeople.

The government of Iwo rested with the town chiefs; they met daily on the outer verandah of the palace, carrying their decisions to the Oluwo. Inside the palace the Oluwo sat surrounded by the royal chiefs of both groups, also discussing the town affairs. These had no official place in the constitution but because of the close relationship of some with the Oluwo and the large numbers of people represented by them all, their opinions carried much weight so that the Oluwo could often overrule his town chiefs' decisions. With the backing of his personal followers the Oluwo was able to set the town chiefs against each other, so that instead of forming a block united against him they would come individually to him secretly to beg for favors. From the time of Lamuye at least, and possibly as a result of Moslem influence, the Oluwo was not an unknown person hidden in the palace but a man regularly seen by his chiefs and people.

THE IJEBU

As a fourth example of a Yoruba political constitution, that of the Ijebu might be cited. In contrast with that of Iwo just described the government of Ijebu Ode, the metropolitan town, is perhaps the most complex in all Yoruba country. The reconstruction of the traditional system is particularly difficult since not only have many of the traditional institutions been given no place in the modern local government, with the result that most titles are vacant, but as a consequence of trading activities the Ijebu have become by far the wealthiest sub-tribe, with the inevitable weakening of traditional social ties.

Ijebu Ode is probably one of the oldest of Yoruba towns. Today it has a population of 26,000, considerably larger than that of any neighboring settlements;[8] it was a capital town surrounded by many smaller satellite towns. Legends say that modern Ijebu Ode was founded by Obanta, the first Awujale or king. It is claimed that he came from Ile-Ife but it seems possible that he came in fact from Benin. Almost all the lineage elders in Ijebu Ode claim that their ancestors came either before Obanta or with him; the land was apparently distributed among the indigenous people before he came, and there appear to have been many kings whom Obanta displaced. Since Obanta fifty Awujales have reigned; Obanta probably reigned between the thirteenth and fifteenth centuries. It is claimed that since his reign the kingdom was never destroyed, and contact with neighboring kingdoms

8 Ago Iwoye and Ijebu Igbo, now large towns, were both formed when small settlements near the Ibadan border were obliged to come together for protection.

seems to have been slight. It is said that in the nineteenth century no stranger could ever sleep in Ijebu Ode and leave it alive.

Ijebu Ode is today divided into twenty-five quarters. Legends are told that the people of a quarter are descended from a man who came before or with Obanta. Sometimes two or more such groups of people live within one quarter. The lineage in Ijebu Ode seems much less clearly defined than in other Yoruba sub-tribes and this may be for one or more of the following reasons: (a) the great antiquity of the kingdom; (b) land is held only by the descendants of earliest settlers—others have received it from them; (c) lineage titles are not important in the political system; (d) the exogamous unit is much smaller, being confined to descendants of grandparents; (e) the custom of matrilineal inheritance of some titles: the titles of three subordinate rulers (the Ajalorun of Ijebu Ife, the Olowu of Owu, and the Dagburewe of Idowa) are still inherited by the son of a daughter of a ruler, and it is said that the titles of the pre-Obanta rulers of Ijebu Ode were inherited in this way and that the Olisa title was so inherited until recent times. Each quarter *(itun)* was headed by an *oloritun*; he was usually the oldest man in the quarter although men who were too senile were sometimes passed over. In some cases the title passed from the oldest man in one part of the quarter to the oldest in another. The *oloritun* held meetings within their own compounds of all adult men in their quarter; their authority and jurisdiction seem to have been very similar to that of lineage heads in other Yoruba towns.

Every Ijebu man belonged to an age set; these were constituted at three year intervals when youths reached the age of fifteen to eighteen years. The set was given a name by the Awujale which it retained forever. The members of sets met regularly for social purposes in a manner similar to the *ɛgbɛ* in other Yoruba towns. There were no formally constituted grades as in Ekiti. The members of these age sets were collectively known as the *ipampa*. As in other towns the organization of the young men is difficult to reconstruct. Ijebu Ode was divided into three parts in each of which was a titled chief responsible for the organization of the *ipampa* in his own area. These chiefs today claim that their titles have always been hereditary within one or two lineages and that the holder is elected by his lineage members with the acquiescence of the *ipampa* members.

The *Ogboni* society, known in Ijebu as *Ofugbo*, was an important institution of government. It is said that in the old days almost every man joined. Entry was by a series of fees fixed by the existing members in relation to the wealth of the candidate. There seems to have been no barrier to entry except that a man of bad character would have been refused admission. Entry could be at an early age, for there were grades within the society for young men; a man could join before his father died but he could not rise above his father. One grade appears to have been

reserved for men whose fathers were dead. One rose through the grades by paying fees which entitled one to be initiated into the more secret rituals. The *Oʃugbo* were headed by the Oliwo, followed by the six *Iwarɛfa* chiefs; Apena was the messenger. Only Oliwo and Apena were known outside the society; the identity of the *Iwarɛfa* was known only to members. The *Iwarɛfa* were elected by the *Oʃugbo* members and the Oliwo was succeeded by the senior *Iwarɛfa*. The Awujale, whose authority was necessary to found an *Oʃugbo* branch, was himself a member of the *Oʃugbo*, holding the title Olurin, but he rarely took his seat, a slave deputising for him.

The palace organization of the Awujale was highly complex, reminiscent more of Benin than of a Yoruba town. Slaves were organized into nearly twenty groups, each with their specific functions. Included among these was a title society open to freeborn Ijebu known as the *Iʃɔrɛ* society. This society had several grades—*ɔlɔgben*, junior *ɔlɔwa*, senior *ɔlɔwa*, and *otu*—and was headed by Olotu Ifore. Any man might join if he could afford the fees. He indicated his desires to one of the palace slaves, who informed the Awujale, who gave permission for the title to be taken. Subsequent ceremonies were performed in the palace.

Each lineage in Ijebu Ode appears to have had its own elected titled chief but these were only for performing lineage rituals and carried no political office. In fact if such a chief obtained a political title he had to relinquish his priestly title. Exceptions to this were the Olisa title which was the senior title in the town below the Awujale, it being said that Olisa ruled the town while the Awujale ruled the kingdom. Ranked below Olisa was Egbo. The founder of Egbo lineage is said to have come from a Benin town in the time of the tenth Awujale and to have held the title from that time. Both these titles were hereditary within the lineage.

Other important titles were the senior slave, Ogbeni Odi, and Ogbeni Oja, a title filled alternately from among the senior slaves and the *otu* grade of the *Iʃɔrɛ* society.

The title of Awujale was hereditary within the ruling lineage. This lineage now has four segments, each tracing its descent to an Awujale who is believed to have lived in the late eighteenth century. The new Awujale must have been born to a previous Awujale while he was actually reigning. On the death of an Awujale the slaves *(odi)* were responsible for most of the ritual; they also presented the new candidates to the town chiefs for their final selection.

There were no special titles reserved for members of the ruling lineage and it is uncertain how far they participated in membership of the title societies. They certainly belonged to the age sets. Children of an Awujale were often sent to rule subordinate towns, where they held the title Otunba, it being thereafter vested in the lineage founded by them.

Government of the town was a combination of all these institutions. The highest authority, before the Awujale, was the *Ilamuren* society, comprising the Olisa, Egbo, Ogbeni Oja, and the members of the *Ifɔrɛ* society. All members of this society had to be members of the *Oʃugbo* society, though ineligible for senior titled posts in it. Similarly a new Olisa, Egbo, or Ogbeni Oja had to advance through all grades of the *Ifɔrɛ* society to the rank of *otu*.

To sum up: the *oloritun* had authority within their own quarters; it is said that they used to meet together although the functions of such meetings are not clear. Each age set met separately and then together under their own chief to discuss matters affecting individual members and the organization of public work. The *Oʃugbo* society met regularly every seventeen days in their own meeting place: here the affairs of the town were discussed and cases involving the more serious crimes were heard, such cases going on appeal to the *Ilamuren* society. The *Ilamuren* society met in the palace. Their decisions were carried by a slave to the Awujale, secluded within the palace, who gave them his assent.

The villages around Ijebu Ode had a more simple constitution. In many cases the people of a village claimed descent from a single founder and the segments of this lineage formed the quarters of the village. The title of the senior chief in the village *(olori ilu)* together with those of his second, third, fourth and fifth in command *(ɛkeji ilu, ɛkɛta ilu, ɛkɛrin ilu, ɛkarun ilu)* passed in turn to each segment, each titleholder moving up a post on the death of the *olori ilu*. The villages possessed their own *Oʃugbo* societies complete with all grades and an *ipampa* society, often with chiefs elected by the members. These societies were subordinate to those in Ijebu Ode. The villages had no title society such as the *Ifɔrɛ* society and no *Ilamuren* society. Village heads referred matters to members of the *Ilamuren* society in Ijebu Ode.

SUMMARY

The description of the constitutions of the four Yoruba towns has been made with a limited purpose in view—that of outlining the different political institutions and their constitutional powers, their membership and the part played by the lineage. Omitted have been the rituals and ceremonials surrounding kingship and chieftaincy, the part played by religion, details of the methods of administration, and the strains which are produced in the everyday working of the constitutions. Of the four diverse constitutions outlined, that of the Owe is unique in lacking kingship; these people have little knowledge of their own history or of the antiquity of their institutions. The oldest of the constitutions is that of Ijebu Ode in the sense that the town was founded before the arrival of the present dynasty several centuries ago, and that no catastrophic event since then would appear to

have happened to overthrow the original constitution. The youngest is the constitution of Iwo, for the town itself was founded probably in the sixteenth or seventeenth centuries and the flood of immigrants in the nineteenth century must have produced many changes in the government of the town.

In each town the lineage was a gerontocratic institution with a large membership, the adult males having a common residence. All matters affecting lineage members only were decided ultimately by the lineage head (though appeal to the town government might be made). Since the lineage members corporately held the lineage farm land and town land, and since male lineage members often plied a common craft, matters discussed at lineage meetings covered an extremely wide range. The authority of the lineage head was mainly moral; he was nearly always believed to be very much older than the remaining elders and hence to be able to approach more effectively the lineage ancestors and deities.

Each of the towns had a government responsible for the external relations of the towns including the declaration of war, for the maintenance of law and order, including police work, and the administration of justice, for the control of rituals affecting the whole town, and for a variety of social and economic matters such as fixing the times of harvest or bush burning. In none of the towns did the government consist of a committee of lineage heads, and lineage heads did not have authority, by virtue of their position, outside the lineage: always the government consisted of a separate set of institutions standing apart from the lineage. These institutions have been grouped as associations, lineage chieftaincies, and kingship.

Title grades and societies were most prominent in Kabba, Ekiti, and Ijebu. They might be divided into age set and grade systems, by which young men formally expressed their opinions and were organized for public work, and the title societies. In Iwo there were no such political institutions and public work seems to have been organized through the lineage. Membership of an age set was automatic and hence universal. There seems to have been no suggestion in either Kabba or Ijebu that membership of the title societies—the title grades of the Owe or the *Ifɔrɛ* society or the *Oʃugbo* society of Ijebu Ode—became restricted to any small hereditary section of the community; instead it is suggested that most men joined the *igɛmɔ* grade in Kabba or the *Oʃugbo* society in Ijebu. In both these the appointments to the highest posts were by election by the members, although wealth to perform the necessary ceremonies was a prerequisite of the successful candidate.

In Ekiti and Iwo government was carried out mainly by chiefs whose titles were vested within certain lineages. Such hereditary titles were filled by election by the lineage members, the king and remaining chiefs having no power to overrule the decision of the lineage members except on technical grounds. In Ekiti it is notice-

able that every lineage was represented by at least one chief, usually elected by his lineage but in some instances appointed by the king in council. In Iwo the size of the town alone would have made such a system unworkable; here the lineage heads were responsible to chiefs, the tie being one of patronage.

The institution of kingship was remarkably similar in the three towns possessing it. In each case the title was hereditary within the lineage of the founder or conqueror of the town; in each it was the town chiefs—the lineage chiefs or the heads of the title societies—who had the ultimate control of the election of the king. In Ekiti and Ijebu, where the king was a figure hidden from view and, in theory, exercising little power of his own, the remaining members of the royal lineage occupied little or no constitutional position in the town; they were debarred from holding most titles. Iwo was completely atypical in this respect, the history of the early and mid-nineteenth century probably being responsible. The king became a war leader and, being a Moslem, hastened the decay of many of the traditional rituals; the rewards of battle, and especially land, bestowed upon his closest kinsmen and followers gave them, through patronage, a physical power which more than balanced the constitutional power of the chiefs from the non-royal lineages. This process was accentuated by the long reign of Lamuye and the consequent accession of five of his own sons: the checks to power which in other towns were achieved by rotating the title through a number of lineage segments did not operate.

If we were to group these four types according to the classification adopted by Dr Brown, the Owe of Kabba would probably fall, with the Ibo, into that group having lineages and associations only, while Iwo, having no associations, could be grouped with Ashanti and Nupe. Ijebu and Ekiti, having lineages, associations, and state forms, would be in the third group, in which Dr Brown did in fact place the Yoruba. Yet the features of the state in Ijebu Ode are far more complex than in Iwo. If this classification does not grade the political systems according to complexity, it does grade them according to their probable historical evolution, for the Kabba type is presumably the oldest and that of Iwo has undergone great changes within the last two centuries.

The brief descriptions of the four Yoruba constitutions given here suggests other criteria which may be useful in grouping such kingdoms and which increase our knowledge of them. A similarity between all four political systems is the election of the rulers—the *ololu* of Kabba and the *ɔba* of the Yoruba kingdoms—by a subordinate group of titled chiefs. The *ololu* and the *ɔba* were both responsible for the ritual of the town and both were the mouthpieces for official decisions, although the former, lacking the divinity of the latter, probably took a more active part in the government of the town. The election of the king is one of the major features of the constitutions of the Yoruba kingdoms. Second to it is the insignifi-

cance, constitutionally, of the members of the royal lineage; in Ekiti and Ijebu they play little part in the government of the town. Iwo is here the exception, for the royal princes used their economic power to gain a position in which they could often overcome the traditional constitutional rights of the chiefs of the non-royal lineages. While the traditional kings of the Ekiti and Ijebu were divine rulers, personifications of their towns, and governed only by the consent of their councils of chiefs, the king of Iwo was able to become an autocrat.

In comparing the composition of the councils of chiefs in the different towns another grouping arises. Kabba and Ijebu were alike in that these councils were composed of men who had risen through a series of grades in title societies largely through their own wealth.[9] In Ekiti and Iwo the titles of the chiefs who sat on the councils were usually vested in individual lineages and in most cases the members of these lineages had the right to elect the chief. Those so chosen were usually elderly men, and although they had probably displayed their qualities of leadership at an early age, few had held any official position before election to chieftaincy. These two methods by which titled chiefs might be appointed are in striking contrast. They affected directly the prominence of the lineage in the towns: in Ekiti and Iwo it was a more dominant feature of the social system than in Ijebu and Kabba, where age sets and grades and title societies, of which men of all lineages were members, took over some of the functions of the lineage in the former towns. In the Ekiti towns and in small towns in other areas the titles were equitably shared so that each lineage had at least one chief; in such a large town as Iwo itself this was clearly impossible. Thus, whereas in Ekiti and other small towns every lineage member, at some time or other, elected his representative to the council of chiefs, in Iwo such rights of representation were restricted to a minority.

Other criteria, such as the organization of the staff of the royal palaces, the organization of the army, and the collection of tribute, would also be useful in classifying these political systems, but space has prohibited their description. Those given above—the appointment of the supreme ruler and the constitutional powers of other members of his lineage and the composition of the councils of chiefs—enable one to see considerable differences between the constitutions of various Yoruba kingdoms. The same criteria would also illuminate the differences between the kingdoms of other West African societies.

9 This was completely so in Kabba; in Ijebu many titles were gained by other means already described.

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A NATIVE RELIGIOUS MOVEMENT AMONG THE WHITE MOUNTAIN AND CIBECUE APACHE

GRENVILLE GOODWIN AND CHARLES KAUT[1]

INTRODUCTION

THE NARRATIVE which forms the body of this account was recorded by Grenville Goodwin at Calva, Arizona, on the San Carlos Reservation in 1936. It tells of one of the three major religious movements which have taken place among the Western Apache since they have been localized on a reservation.

Western Apache[2] is the collective designation given by Goodwin to the White Mountain, San Carlos, Cibecue, Northern Tonto, and Southern Tonto groups, all of whom speak essentially the same Southern Athapaskan language. Their homeland lies in the mountains of east-central Arizona. They were hunters and gatherers who practiced a limited agriculture which was confined to sites controlled by matrilineal clans. There is some evidence[3] to suggest that certain rituals were also clan-controlled. These particular groups of Apache were not involved in the "Apache Wars" to the same extent as were the Chiricahua, their next-door neighbors. The Western Apache made peace with the Army fairly early, in 1870, and were recruited as scouts in the campaigns against the Chiricahua. In 1875 all of

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1 The following narrative was told to Grenville Goodwin by Neil Buck, his friend and chief assistant, who is still living at Bylas, Arizona, at the age of seventy-three.

Goodwin, who had been studying the Western Apache for over a decade and had accumulated a tremendous fund of knowledge about their life and culture, died in 1941 before he could prepare the bulk of his data for publication. After his death his widow, Janice Goodwin, turned over his handwritten manuscript material on religion and material culture of the Western Apache to the undersigned. Between us we have transcribed, typed, and organized most of these materials preparatory to their analysis and future publication. I would like to thank Virginia Drew Watson for her assistance in this connection.

During 1953 Charles Kaut spent some five months among the Western Apache, under the auspices of the Department of Anthropology of the University of Chicago, studying modern reservation conditions and gaining a perspective on Apache life and culture, particularly in the Cibecue region. He has kindly supplied the introduction and some notes on the account. The text was taken down in English and has been edited and rearranged a bit in the interests of clarity. Statements in parenthesis are by Goodwin, those in square brackets have been added by Kaut. Harry Hoijer has furnished phonemic renderings for most of the Apache terms and has made various corrections and comments which have been incorporated in the text or notes—Fred Eggan.

2 For a general description and history of Western Apache life, see G. Goodwin, *Social Organization of the Western Apache* (University of Chicago Publications in Anthropology, Chicago, 1942).

3 G. Goodwin, ms.

the Western Apache as well as the Chiricahua were rounded up by General Crook and settled on farms along the upper reaches of the Gila River. After a short period, however, the Cibecue group and most of the White Mountain people returned to their old lands to the north of the Salt and Black Rivers. Four distinct communities now remain in much the same areas as in pre-reservation days. There are concentrations of Apaches living at White River, Cibecue, Bylas, and San Carlos. Each of these more or less corresponds with one of the old groupings, except that the Tonto groups have been incorporated into the San Carlos community or placed on the Camp Verde Reservation. Cibecue has always been the most removed from agency control and it may be because of this that most of the impetus for nativistic movements has come from here.

Until about 1920 these Apaches lived in much the same way as they had before 1870, except that raiding into Mexico ceased by the turn of the century. In the past thirty years they have shifted the economic basis of their life from agriculture and hunting and have become successful cattlemen. This does not seem to have altered their basic world view to any extent as yet, and their social organization until recently has remained relatively undisturbed.

For the past seventy years, the most continuously active missionary effort on the reservation has come from the Lutheran Church. Catholic, Mormon, and Assembly of God missionaries have been sporadically active. The effects of this contact can be seen, not in the small number of Apaches who are enrolled as Christians, but by the Christian elements which have been incorporated into Apache myth and ritual.[4] The narrative which follows shows several instances of this.

To place this narrative in its proper perspective some knowledge of the history of religious movements on the Apache Reservation is necessary. Goodwin has presented a brief summary[5] of Western Apache religion which centers around personal power, curing, crop and game insurance, elaborate girls' puberty ceremonies, war power, and witchcraft. However, in the discussion of any concerted activity among the Western Apache, whether it be of a religious or economic nature, the concept of medicine and medicine-men must be emphasized. All individuals had at their call a certain amount of "power" or medicine so that the things that happened to them were believed to be good or bad according to how much medicine they controlled personally, or could obtain from a relative or friend. A man who had special or extraordinary power was a medicine-man or shaman. In group activity these men were all-important. Success on the warpath depended upon the ability of the

4 G. Goodwin, *Myths and Tales of the White Mountain Apache* (Memoir, American Folk-lore Society, vol. 33, 1939), Introduction, p. x.

5 G. Goodwin, *White Mountain Apache Religion* (American Anthropologist, vol. 40, pp. 24-37, 1938).

medicine-man to overcome the enemy with his medicine. For this reason a war-chief was also a strong medicine-man. A different type of medicine was effective for each phase of life and within each of these there might be further specialization. Some men specialized in one type of medicine or one of its limited aspects. These men were called on for this particular service only. The man who had at his disposal higher and more general kinds of medicine was usually the outstanding person to whom the community turned for advice and leadership. The focal point of almost all communal action among the Apache was the medicine-man, because through his knowledge and control of the supernatural he could influence the outcome.

After the Western Apache were confined to the reservation a series of movements took place which expressed discontent with existing conditions. These were all led by medicine-men of great power. There were three of these movements, the first of which started in 1883 when a medicine-man at Cibecue by the name of *naildoh* [this is according to Goodwin's notes—he is usually referred to as Nakaidoklini in Army accounts] held a series of ceremonies to raise the dead and bring back the old leaders for a joint uprising with the Chiricahua against the Army. To persuade certain sceptics he took them out in the hills and held a conference with some of the dead leaders of the past. The intensity of feeling with which the Apaches entered into these ceremonies caused the Army to grow nervous. After a series of events,[6] a detail was sent to Cibecue to arrest the medicine-man. His arrest and subsequent death at the hands of the Army precipitated what has become known as the "Cibecue Massacre." Although only twenty persons, at the most, were killed on both sides, the situation could have led to a general uprising. The death of the medicine-man left the Apache without a leader however, and peace was restored with relatively little bloodshed. There were continuing small uprisings of this sort for about six years but no medicine-man was outstanding enough to arouse the wide-spread interest that *nàildòh* had been able to stimulate.

The next sequence of religious events, described in the following narrative and referred to as *dahgodiγáh* [they will be raised up], occurred in a four-year period from 1903 to 1907, a time when raids into Mexico had ceased and the Apache were rather bored with reservation life.[7] Like the first, it was initiated at Cibecue and probably achieved its greatest success there although it spread to several other communities. In contrast to the earlier one, this movement does not seem to have

6 Thomas Cruse, *Apache Days and After* (Caldwell, Idaho: Caxton Printers, 1941).

7 In the period about 1915 or 1916 the late Pliny E. Goddard obtained an account of this religious movement. He may never have published this but the oral description given at the time, as recalled by Leslie Spier, corroborates the present record detail for detail. The principal difference was that, according to Goddard, the new houses, new clothing, and horses brought to the new village (as described below) were expected to slip off into the new world that was to come. We regret that we cannot locate Goddard's published record.

had any strong anti-White element in it. In fact, the teaching of the various leaders revolved around peace and moral behavior, and the goal of the movement was to establish a new world for the good people of all the nations of the earth. It died out, not because of intervention by the authorities, but because of the failure of the leaders to accomplish what they had set out to do. After a series of dances they were going to lead the people up into the clouds, while the old world and all its bad people were destroyed and a new world created. The narrative describes the activities involved at one of the communities. It does not describe the final phase with the dance up into the mountains, because at this particular place [Bylas] the movement was dropped before it got that far.

The third movement is called the "Silas John" movement after its founder Silas John Edwards, a medicine-man who was born at Fort Apache but moved to Bylas. The movement began in 1921 at Bylas when Silas John had a vision in which he climbed a rainbow to receive instructions from *yó'sn̓* [equated with Giver of Life, the Supreme Deity; the name *yó'sn̓* probably is derived from the Spanish Dios] about a religious ceremony He wanted performed. Silas John's movement contains a careful blend of Apache and Christian belief and symbolism. The snake and the cross are two of the main symbols, while the teaching is concerned with a return to the old way of life. Silas John has become identified with *na'γé'ne'zγáné*, who is the central culture hero of Apache mythology, and both have been called by the English name of Jesus. In 1933 Silas John was convicted of the murder of his wife and has been in prison ever since. In spite of this, the movement he started is still active at Bylas where a dance is held every Sunday morning to bring *na'γé'ne'zγáné* back. People from all over the reservation make trips to the prison to be healed by Silas John.

In summary, the three movements are similar in some ways and quite different in others. They are similar in that traditional Apache beliefs, ceremonies, and songs are used as the base from which action is initiated. It is in the goal of each that the main difference lies. In the first instance, the goal was a successful uprising against the White intruder, an objective which proved impossible of attainment. In the next, there was a desire to bring back a world of plenty and happiness through a spiritual revival in which the good would be saved and the bad destroyed. The latest movement has yet to run its course, but it appears that Silas John's objective is to unify the Apache so that they can stand as a people against the pressures of the White world. The movements seem to have been successful only when an important medicine-man has been able to capture the imagination of the Apache, and in each instance some innovation was necessary to do this.

The narrative which follows is in itself interesting from several points of view. Its structure is such that the history, development, internal workings, persons involved, and final fate of the movement are all related in a clear and understand-

able fashion. There is first an account of the initial contact the Bylas people had with this new ceremony from Cibecue and how they began to use it under the leadership of the medicine-man, Big John. The events taking place in other parts of the reservation are then sketched in so that a broader picture is given. The final section discusses specific parts of the movement in detail, and is in fact an analysis of the movement by one of those who participated in it.

No detailed analysis of these data has been attempted here since it is felt that in large part the manuscript speaks for itself. Problems of social organization, religious belief, and personality conflict are brought to a focus in a specific set of events which are seen through the eyes of an Apache. Clan organization, joking relationships, mythology, and ritual—these and other facets of Apache life are shown in operation.

The question could be asked whether this is really a nativistic movement. It certainly falls within the classification of Linton[8] since it is both revivalistic and magical. However, a set of ambivalent attitudes expressed in the account leads to confusion about the exact nature of the desired end, e.g., special clothing is prescribed for the participants in the movement, with the explanation that this will prevent their being mistaken for White men and left behind when the world is changed. On the other hand, the medicine-men teach that the "good" of all nations will be lifted up and saved. This latter statement might cause doubt as to whether this is a nativistic movement according to the usual definition. However, it is probable that this statement was explicitly for the benefit of the missionaries and reservation authorities who could still look back at the events of the 'eighties and be suspicious about the intent of elaborate religious ceremonies. The medicine-men's teaching of non-violence calmed their fears and allowed the movement to continue with little interference. Therefore, from the point of view of this discussion, this was a full-blown nativistic movement which was apparently conceived and carried on with a shrewd backward glance at what had happened in the past to efforts to get rid of the White man and return to the old ways.

A final word about the narrator. Neil Buck is a full-blooded Apache who at the time these events took place was about twenty years old. He had been to school and spoke good English. His orientation was mainly toward the Apache way but he was well acquainted with White ways. He entered the movement, but not without reservations, and because of this was a good participant observer. His ability to be a part of the community and yet be somewhat detached was rare fifty years ago among a people whose group identification strongly resisted outside influence. He was not a medicine-man himself, but his curiosity about everything which went on about him suggests that this account is reasonably complete.

8 R. Linton, *Nativistic Movements* (American Anthropologists, vol. 45, pp. 230-240, 1943).

DAHGODIɣÁH, "THEY WILL BE RAISED UP"

[NARRATIVE]

(January 17, 1936) I was about twenty-three years old and out of school when the *dahgodiɣáh* started. It meant to be raised up on top of a cloud like Jesus was. I can remember it well. The first we heard of it was from Cibecue. A man called Daslahdn, a medicine-man, started it in 1903. He said he was going to raise the people up.

The first time I saw him was when I was working as time-keeper up at the saw-mill above Casador Springs. He came down there with his wife. A whole bunch of men who were working there gathered on a flat place above Casador Springs, along with all the people thereabouts, on Saturday night. A man called Norman Casador, who used to live and have cattle at Casador Springs, killed a cow for the occasion. Daslahdn made a dance for us. He lined all the people from Rice up just for prayer. Norman Casador was in front as chief of all the Rice people. Old men and women came after him, then younger people and finally children. Even the children of old man Tuttle, who had a store up at Fort Thomas, were in with them. Casador had cattail pollen mixed up with corn meal. He held it in his hand and danced about the fire and the men who sang there. He led his people about dancing this way four times only. They had hired two girls to get a basket-full of pollen. After the Rice people had danced about four times they sat down.

Now it was us Bylas people's turn to dance. C.G. 9 [a number this man had been given for identification by the Army when the Apaches were first placed on the reservation: these were often adopted by the Apache as names] led us all as a chief. We had to take our hats off as we danced and hold them in our hands. We did the same as the Rice people had and then sat down.About midnight the Rice people got up and danced again. Each had pollen and corn meal in his right hand. When they sat down, after four times around, we got up and did the same thing. At two and four in the morning the two groups repeated their performances. This was done four times that night.

When Daslahdn started to sing that evening he began with *gójǫ́sɨ́* [songs which by telling stories about mythical characters insure prosperity and well-being: these are usually associated with the girl's puberty dance]. Next he sang *diɣɨ́sɨ́* [personal songs of great power given to the medicine-man by the Lightning People]. Other men there who had *diɣɨ́sɨ́* also sang. Then at seven in the morning when the dancing was all over Daslahdn sang four songs from *gójǫ́sɨ́* but I don't know which four they were.

We danced up there just one more time at the end of August. When we quit

work at Casador and moved down to Dewey Flat along in November, Big John decided to have a dance across the river from Calva. A messenger was sent down there to notify us about the dance. He said that they were going to have a dance like the Cibecue man had given and also a sweat bath, a great big one.

The sweat bath was a great big one, a little smaller than my wickiup here. It had four doors, one to east, one to south, and so on. They brought a big feast to the sweat bath for the people. After eating they made four big hoops, one black, one blue, one yellow and one white [traditional colors associated with the four directions]. They also tied some big eagle feathers on them.

At dark we went over to the dance-ground. Before we started to dance we all lined up in a great circle there and waited. Big John was the one in charge of the dance. He took all four of the hoops at one time and threw them up in the air. When they landed they rolled along and fell so that they formed sort of a chain with one just overlapping the next. Then Big John said, "That's all right. If they had not landed this way I would not go on with the dance."

Then we went ahead and did the same as we had done at Casador Springs except that down here we had four girls with baskets full of pollen and corn. These girls had to keep throwing this while we danced. The men and women danced separately. Old Andrew Stanley used to be the leader for the women. Whenever he came up to the fire, all the women followed him. He took them around the fire four times.

There were about five or six men there to look after the dance. Two were on horseback, riding about outside the crowd all night long so that no girls would sneak off with boys.

Along in the morning, this Big John said, "Well, we will come together again in three days." So we always danced every three days, just the same way. No one stayed home. Everyone was there.

Then after a while they commenced to have two more dances going, one on East Fork and one on Cedar Creek near the R-14 place [R-14 was the tag identification of the richest Apache cattleman on the reservation]. This way it came up about the same time all over.

Pretty soon they said, "Every one got to have moccasins, all the men got to have medicine-caps, and the women must all wear white dresses." All the men had to dress alike also. They had to wear white drawers, white shirt, white gee-string, and black vest. We dressed just like old-timers. The women the same. From each shoulder hung down four strands of ribbon, about to the ground. These were the colors of the directions. Also on the front of a man's shirt or a woman's blouse they each wore a cross made of silver with a crescent moon over it and from the bottom of the cross hung four or five conchos, made of dimes hammered out and

strung on a piece of buckskin by little wire hoops soldered to them, so that they reached the bottom of the shirt or blouse [see Figure 1]. Some wore it on one side only, some had one on each side in front, and some wore one on their medicine-hats. It was Big John who ordered all this. It looked good in the morning to see all the people dancing and the silver flashing. It was just the same up at Fort Apache and the other places also.

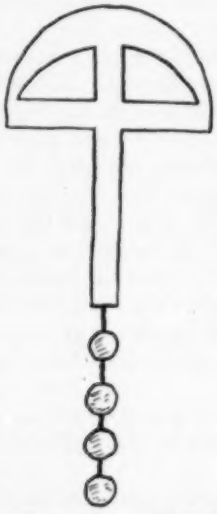

FIG. 1. Silver ornament worn by dancers.

Big John did not order us to dress this way until along in February. It took a long time for all the people to get their costumes together, because some had nothing to start with. We made things out of nickel as well as silver, but it was not so good. It was blackish. We used to go to the railroad and pound out the cross on the rails. The women looked good all dressed in white.

We danced about two years this way and then I was married in 1905. I worked on the railroad down at San Carlos and Big John ordered that every woman bring three things: *tó's* [water basket], *tát'sa'?* [burden basket], and *t'sa'?* [plain basket] to the dance. I took all my things over there. I did not dress in the white costume at all. I just had a pair of moccasins and white drawers. I had a white gee-string also, but never used it. I had a medicine-hat that I wore to dance in sometimes. I usually wore a white shirt, black vest, black pants, and moccasins. This time I took all

these things and my woman, who brought the three baskets required of her, to Big John at the dance ground. He had two other medicine-men standing there beyond him.

Shortly after this, a lot of medicine-men sprang up for *dahgodiɣáh*. One was a medicine-boy at Dewey Flat, Charley Moccasin's oldest brother. Another was Paul Nosey, my cross-cousin, and another was C. F. 38. They used to have their own songs and dances but Big John was the head of them all. They all of them sang *dahgodiɣahsí* [*si* is the Apache word for song] but I do not know where they got them. Maybe they got them from the Lightning People.

At Fort Apache there were only two medicine-men.

Anyway, this time Big John ordered each man to bring a horse, saddled and bridled, to a dance just before sundown. He led each horse out from the sweat bath over to the dance ground [the explanation for this comes later].

Whenever we assembled at the dance ground, we used to start dancing right away, because we now knew how to do it. When we came to the dance ground every three days we all lined up and shook hands with Big John. He had to shake hands with everybody. We danced the same each time.

We must have danced four or five years this way, but finally we quit it because all three of the medicine-men who ran it up at Cibecue, Cedar Creek, and Fort Apache died. Daslahdn was the first to die [he felt that he could return from the dead and had his followers cut his head off so that he could prove it]. After these three died, then Big John was the only one left. So all the people got scared and quit.

Big John used to tell us, "You will be raised up from the earth in a cloud, and while you are gone the earth will be changed. Then you will be lowered on to it again and it will be all ready for you. All will be ripe there and all the things you need will be there." But it never came true.

There have been three religions among us. The first was *naildoh* at Cibecue [1883]. The second was *dahgodiɣáh* [1903-1907]. The third was Silas John [1921 to the present]. Another time there were some girls who thought they had power, but they did not. I guess they were fooled by *t'cí'dńnant'áń* [chief of the dead]. He does this sometimes. Silas John says that he misleads medicine-men this way into believing that they will succeed, but they fail. He says that the men get a sure-enough dream from Jesus or God in the beginning, but after they start to dream some more about the trail to the land of the Lightning People, *t'cí'dńnant'áń* in the shape of Jesus or God will stop them and say, "Here is the way to become a medicine-man. Take this path." Then they will be led astray off the real path. This is the way they fail and get all mixed up by it.

Big John went all about where the horses were that the men had brought, and

looked at them. After that we moved up to Ash Flat [in the mountains] and had all our wickiups there. They made us build them all in four rows, the lines running north and south. Each one had two doorways: one to the east and one to the west; so that by looking through the door of one wickiup you could see right through the two doors of the next one and so on. We made them of good stout juniper poles, and they were all made well. Some of the poles are still standing there. This place is just east of Twin Peaks toward Indian Springs. We built that camp in 1906. Big John ordered that we not live in this camp until we got up there [i. e., were raised up]. We never even built a fire in them. We camped at Yellow Jacket and went up to work during the day. We danced at Ash Flat just the same as we had down here.

After we got all the wickiups finished up above Yellow Jacket, we left them and came back down here again. Right about this time Big John quit his first wife and went up to Fort Apache with a woman from up there. He never came back. We never went on with the dance.

The medicine-man [Daslahdn] over at Cibecue, who started all this, died before we built those camps near Indian Springs. Right after we built the camp the one who led the movement at East Fork died. Then soon after him the one on Cedar Creek died. So that is the way we got scared and quit. We were afraid all the medicine-men would die. Down here Paul Nosey and Moccasin's brother died not long after in 1907 or 1908. They had helped with the ceremony. We sort of slowed down this business after Daslahdn died and then completely when the other two men died. I think Big John quit it because he got scared for himself and thought if he kept on he would get the same thing as the three up at Fort Apache did. When he quit his wife down here and took the Fort Apache woman, the people did not like it, so he moved away to Fort Apache with his new wife.

[Discussion]

(January 18, 1936) Big John had six disciples. These six used to be taken aside by Big John and instructed how to tell people what to do. It was through these men that Big John conveyed his orders to us. They always used to "police around" while the dance was going on. If you went to bed, they would wake you up and make you get in the dance.

Big John used to sit in a chair out in the middle of the dance. He had a man beside him to whom he talked in an ordinary tone of voice. Then this man would shout out to the people what Big John had said. These six men used to make speeches at the dances once in awhile. Big John was there at every dance. Sometimes he sang, sometimes he danced with the girls. If he let someone sing in his

place, he sat down. Girls used to go up to him and push him so he danced "social dance" with them.

Charley Moccasin's brother was not one of these disciples. He was a medicine-man who sang in it, but he did not police the dance like the other six did. (They were not really six disciples, just men who bossed—"dance bosses"—as I [G. G.] get it.)

The six men in charge told us Big John's order not to go far from our families at any time it got cloudy. He said that this whole thing was liable to happen at any time. Either today or tomorrow we might be raised up, so he did not want anyone to stray far off. Through these men he ordered us to dress in the way I told you. He never told us why he wanted it this way except that maybe if we were dressed like White men we might get left behind.

He also gave each person a new name. He gave them even to babies. "Remember your name wherever you go. If you go in the mountains, never forget what your name is. If you do forget it, when the time comes to be raised up, you will be left behind. Also you must believe in me, what I say, do whatever I say. If you don't, you will be left behind when we raise up. This thing is going to happen just like a flash. When the good people are raised up, the bad people will remain on earth and be sifted from the good. I don't know what will happen on the earth to them, whether a flood will come or what, but it will all be over in a second. I don't know when this will happen, but it will come any time. If you don't dress like I tell you and do as I say, you will be left behind."

There was another man called Big John, but he is not the same as this man. The Big John I am talking about in connection with this ceremony is still alive up at Fort Apache. His real name is *nant'áń dį́'gohá'ti'?* (chief four rising up: like four strings rising up from the ground in four places). I guess he dreamed this name for himself. Maybe the place he dreamed about is called by this name.

Some people still use the names they were given by the medicine-men at that time. R-14 does. His real name is *'á gol t'ayé* but the medicine-man on Cedar Creek gave him the name *nantán be hó* (chief you get plenty from him). The medicine-man called him this because whenever people went to his camp he fed them. Nobody down here still uses his old name. We all had them but we have forgotten them.

Moccasin's brother called me *ickin'ba galń* (boy he goes about the dance) because he put me in to look after the dance once. Big John gave me the name which means "chief turquoise his cap from sides at the new moon resting there." The other day Fred Wesley called me this name in fun as I walked up to a card game. He remembered it. Sam Dushey was there, he heard it, and hollered my name out right away and said, "Get married quick and let's get a drink." He joked me as a

cross-cousin. John Ell's father gave me a third name also, but I forgot it. This way everyone had about three names, one for each of the medicine-men. Some still remember all their names, but I cannot.

When they gave me a new name, I was called up in front of Big John and his disciples. "You will have this name from now on. Don't forget it," he said to me. That is the way they called out each man and woman in turn. If a parent brought his children, he gave each of them a new name. As I remember most all the men's names had "turquoise" in them and all the women's names had "white shell" in them [these two things are used according to sex in healing by medicine-men]. The reason for giving new names was the same as why all the people were ordered to dress in new clothes. It was so that no connection with the past would exist.

Down here they did not give any new names to the country or mountains at all. The only place they did that was one mountain at Cedar Creek. I do not know why they changed this mountain's name, but I guess the medicine-man up there was told to do it by his power. The names of horses were not changed at all.

I do not know what the ribbons were for on the shoulders. They just told us that we should wear them so that we would not get lost from the rest.

There was no painting on the medicine hats, just feathers. Some used beads, though. The medicine-men did not order it this way so it was not so good. They only used white and black beads; not many did this. The way they did was to make a border along the edge of the cap. We did not put cross and crescents along the bands of the cap. We put on those made of silver. Some had a lot of silver on their hats, some not so much. This was in crosses and crescents, or just round pieces of silver hammered out of coins.

The reason that we were told to buy horses was that Big John said we should so we could own them where we were going. "You will have better horses and saddles up there. Your horses will become better, and the saddles also," he said. He did not say we would get better horses, only that the horse that we had would become better. The reason that the women were told to bring the three baskets was because they would need them where we were going. I do not know if they made them make new baby carriers or not. We did not have a baby then.

Big John said, "When you get up there, there is not going to be any sickness. Life will be long and without end. It will be summer all the time, with ripe fruits available all the time. If you believe this you will go there, but if you don't believe it, you will never get there."

I do not know why it was that we never got there. It fell through. I guess it was all true all right, but we did not get it because Big John deserted his wife and got another one. That is the way it goes all the time. Whenever a medicine-man comes into great power and influence, he always goes wrong on a woman. Big John did.

Charley Moccasin's brother was only a boy, but as soon as this thing started he got married, even though he was not old enough. Paul Nosey did the same. Later, Silas John had trouble over women. This kind of man never has to pay for a wife at all. They always told the people here to act good, but they went and stole another woman themselves. "I wonder why he teaches us not to steal women anytime and always act good, but then goes and steal women himself," some of the people say.

I never really understood just why Big John had us build the camp I told you of. All he said was that we would go live there at the time this thing was going to happen. He also told us to pile up wood inside the camps to use. He did not mean that the camp would be raised up with us, but that we would be raised up from it. It was never clear in my mind just what it was done for. He told us it might happen any time, he did not know when. He said, "If you are out in the mountains by yourself and it happens, just remember your name and it will happen to you also. You will be raised up by yourself. All the bad people will be left here on the earth and only the good ones will rise up. If the good are few, there will only be a few of us up there. If the good are many, then there will be lots of us up there.

We camped about two miles below the place we built the camp. One day he had all of us men ride up there and pick out a spot where we should build the camp. We picked a ridge with a level top. First we cleaned it off. Then we put a pile of rocks where each wickiup was to be: Big John went about showing each man where his would be. "This will be yours. There will be one doorway on this side, one doorway on this side. East and west," he said. The next day we all went up there and cut big pine for poles and dragged them in by horses. We helped each other. I helped by standing on horseback when the poles were raised and tying the tops together. Then after the forms were up, the next time we took the women up there to cover them with bear grass. My wife cut the bear grass off with an axe and I packed it on our wickiup. I made eleven trips—all for nothing. We never used it. They made them extra strong as a heavy snow might fall sometime.

One time when the people from East Fork and Cedar Creek were near this camp gathering acorns, their leader, who was from Cedar Creek, sent word to us that he was going to have a dance. So we all went over there and watched it. They were all also dressed like us. They danced there all together. The wife of that medicine-man was the leader of the women. She was in pants. She danced one way for a while, then would turn. When she turned, all the other women turned with her. It looked just like drilling. I heard that they built camps like we did up there also near Cedar Creek.

One time we were all coming up to dance across the river from Dewey Flat. When we were almost to the dance ground, we sent word ahead that we were coming. The man we sent came back in a little while and said that there would be no

dance that night. Big John said that word had come by telephone from Fort Apache that the medicine-man from Cedar Creek had been arrested. Big John was afraid that the same thing might happen to him. It turned out to be a false report. That way we missed one dance.

Big John only ordered us to wear silver on our chests. He did not order that we should make them in any special way. The people just shaped them to suit themselves. He had on a silver cross and crescent, and I guess that is where the rest of us got the idea. He never told us what the cross and crescent signified. I never heard the cross was for the sun and the crescent for the moon. Both sexes used it together. I think some of the women put crescents and crosses on their baskets as a design, but my wife did not. Those who did, just put them on because they wanted to.

I had my medicine-cap up until 1916. I lost it when my little girl set fire to the camp and it burned. After the big flu (epidemic of 1918) I said, "I lost my medicine-cap two years ago. If it hadn't been for that, this bad sickness would not have come along."

[This insertion is abstracted from the text. The major medicine-men involved in the movement belonged either to the same or to a closely related clan. Three belonged to *t'ì'stéhn?áyé* which is numbered 30 in Goodwin's list of Western Apache clans and one to *nágodè'sgijn* which is numbered 29. These two are so closely related that they are sometimes considered one clan. Both are White Mountain clans. Thus, all the leading medicine-men in the movement seem to have been closely related.]

(January 24, 1936) Big John also ordered that every man, woman, and child was to carry a small sack of pollen. So we did this. We either tied the little sack of pollen to the front of our vest or shirt, or carried it in the pocket of the shirt. We made these out of a circular piece of buckskin and then put pollen in and tied a buckskin strand about the edges to hold it together. There were no ribbons, silver, or paints on them. Along the edges of the round piece we sewed black and white beads. Some had no beads. [Apache today still carry these.]

We never prayed with these little pollen sacks. We just kept them. Big John said that we might need them sometimes, so if anyone got sick, then they would not be out of pollen. They would have some to put on the feet of a medicine-man along with the turquoise in the traditional way to get him to cure.

Big John told us to pray any time we wanted (not with pollen) anywhere we went, day or night. "That's the way God will look after you. If you pray just one time, he won't look after you good. That's the way that you will be among those who are raised up on the cloud. If you never pray, you will be lost."

When we prayed with pollen, we did it at the dance with the pollen mixed up with corn meal, out of the baskets. We held it in our hand as we danced about

those medicine-men and threw it on them. We danced like this twice during the night and the women danced twice also. That made four times.

We mixed the corn meal with pollen because they said that this was the way that they did it long ago. I believe that the real reason was that they used so much pollen that they did not have enough, so they bolstered it with corn meal. At corn dances we did this way, but that was so that there would be many crops. They used to say that next year we would be living in a new world *(ni'gosdźanbija'jé)* and that was what we were dancing for. The next year after we quit the dance, we had great rains that washed out all the roads and cottonwood trees along the river. As soon as the floods had gone, new cottonwoods sprang up and there were wonderful crops all over. Seeds of all kinds, many acorns and grasses. But the people took only the acorns. They did not want to bother with the old-time foods. So I said jokingly to the others, "Well, all this is what we must have done all that dancing for." It seems to me that something went wrong somewhere and that a mistake was made. Instead of a new earth being made for us, we had wonderful crops on the earth we kept living on.

Old C.J. 37 down at Dewey Flat was a great medicine-man. He told us at the time, "Don't believe this man (Big John). The earth is not going to change at all right away. It will change sometime, but not now. When those who are babies now, grow up and have babies, and they grow up and have babies, three or four generations, then the earth will change." But all the same, the old man was in there dancing at the dances, and he used to sing his own lightning songs for us lots of times.

One time Charley Telto, brother of Henry and cross-cousin of John Rope, who was a scout and came back from his post to one of the dances, said to John Rope, "Well, when you are raised up, I'm going to run underneath you and shout you down again, so that you will come back to earth again." He was joking him. He did not believe it or he would not have said this.

They had four girls who each held a pollen basket at the dance. These were always the same girls unless one was absent and then they put another in her place. I do not know why these particular girls were in there. They were not kin and came from different places. They needed four because it would take too long for one to supply the people. When the women danced, the four girls danced in front of them, one behind the other. The way they did it down here was for all the men and women to dance at the same time twice. All the men were in front of the women, just like at the girl's puberty ceremony. When not dancing this way the pollen-girls could "social dance" all right. They still held their pollen baskets though. As the four girls gave the pollen to the people, they would stand on the east side of the fire, dancing in a stationary line. Each one filed by and got his pollen. Then when

all the women had their pollen, the four girls got in just behind the men as the last one came around, and then led the women.

Nábaʼdi means putting the pollen on the medicine-man. We did not use pollen though when we just prayed by ourselves, but when we prayed to the medicine-man we used pollen. We were not praying to the medicine-man alone. We prayed to all medicine-men and the singers, as well as the other dancers. So it was a prayer for all of us. We did not say any words as we prayed. Those fellows knew what the throwing of the pollen meant. But in a ceremony where the medicine-man is singing to cure the sick, you pray directly to him with pollen.

Andrew Stanley was called "chief he looks up and down as he dances" by Big John. He always danced softly, without joking, like water flowing along. He was the one who led the women. All the women knew him and would follow him out when he started dancing. He used to go out when he felt like it and just dance around the singers and medicine-men. The women would follow him. If he raised his right hand, the women did too. Any motions he made, they made. This was the times between praying with pollen.

One time I saw them dance a little differently. Big John was in front with a pollen-girl on each side of him: then behind him all the men and boys, women and girls. This way it was two lines close together. No one was singing for us. Big John sang as he danced. We all sang too. He led us in a twisting course all over and back. Next day a man said, "You all danced in the shape of a snake last night." It had never entered my head this way, but this man watched us. I guess Big John did it intentionally like a snake. The lines were about seventy-five yards long.

The father of Francis Drake was the leader of the men, just like Andrew Stanley was for the women. He led us out. I guess Big John put him in that position, but I do not know. He used to hold out his hand, palm upward, lower his head, and all the men would also. Also when he whirled and faced the other way, all the men did too. They always whirled clockwise. It was just like a drill. Old man Drake was a good dancer all right.

My father I never saw in the *dahgodiʼyáh dances*. I do not know if he believed in it or not. All his children were in them, and some men older than he were in there. One time he was up at Cedar Creek and got sick there. He got a sharp pain in his forehead and almost went out. They sent for the medicine-man of the *dahgodiʼyáh* up there, and he came with his twelve disciples. Father said he cured him right away. Father did not take much stock in the old medicine-men. One time a medicine-man dreamed that father was living in the land of the dead. He came and told father about it, saying he was going to sing over him. That night when he came, father had run off some place. He did not want to be sung over at all. He said, "My own mind is strong. I am not going to die. I have power also and can look out for my-

self." So he would have none of it. His power was strong and so he was not afraid. The man who had had the dream told me about it himself. He was not angry. I guess he thought father knew nothing and that he would get a little pay out of him.

One time some fellows went to Cedar Creek, where they held a dance like this. They said they had kind of changed the dance there. They did not "social dance" at all. So when these men came back, they tried to get us to change, but we did not like it. We tried it out, with no men dancing, just women and girls, while all the men sang in the middle. The boys got sleepy and the girls did not like it because they liked to dance with the boys. If a boy dances with a girl he feels good every dance and does not get sleepy. We tried it once and gave it up. The married people danced with any man or woman as long as they were not of the same or related clan. The men got in the middle and let the girls tap them on the shoulder to dance.

Big John put in the social dancing because he had been ordered by his power, I guess. I do not think, though, that the social dance was ordered to make power so much, as to get all the people together. If it had just been the *dahgodiɣáh* alone, many people would not have come there. But with the social dance, all these young fellows wanted to come and dance.

Then we "social danced" all night, except for the two times that we danced about the singers and medicine-men and prayed with the pollen, like I told you. Down here we danced until the sun rose and they had one song that meant "they split apart" (go to their various homes). That was a *dahgodiɣáh* song and it was a quitting song. When the dancers heard it, they all started to dance outward. Then that was the end of it for the night. Then one of the disciples would say, "We will meet again in three days and three nights."

One time a certain man, who was a great joker, was at the dance there. They sang one song about the sky falling down to earth and this man as he danced said, "When I heard this, I looked up every once in a while as I danced to see if it was falling." They laughed at him. He did not believe the sky would fall, I guess.

The first time at Casador Springs Daslahdn sang *gójǫ́ɬ*. We did not use those songs after that.

At San Carlos they did not have *dahgodiɣáh*. I guess it was too far for them to come. It seems to me as if it went on mostly among the White Mountain people and over at Cibecue. A few boys used to come down here from San Carlos.

In the beginning they only sang lightning songs, but when Big John got in there he had about two or three songs especially for this ceremony which he had dreamed. He sang these, and the rest of the time the other medicine-men just sang lightning songs. Every time we came together, Big John would have a new song or two of his own. Pretty soon there were lots of songs for the ceremony which he had gotten. The medicine-men at Cedar Creek and Fort Apache were getting songs all the

time too. Pretty soon lots of private individuals began to dream songs of their own. John Rope had about four songs of his own. [Rope was an outstanding leader and medicine-man of the Bylas community.] Anyone who had a song like this could get in there and sing it. Some of the women had songs too. Nashbino's wife used to sing them. He would carry a blanket for her to sit on. She would sit in the middle of the men and sing a good song all right.

Nowadays they still use these songs sometimes at social dances. They do not sing them at cures, only at social dances. Some sing them around here when riding along or drinking. It used to be, however, that we did not sing the verse, only the chorus. Only the medicine-man sang the verse. Emory Starr says that he likes these songs and that they must have been true because there is a lot about God and Jesus in them.

We never used *na·nʔái* [cross] in there at all. All they had was four hoops of the four colors which were made for the first time. These were kept at Big John's house. They only took them out and had girls dance with them once in a while. The four pollen girls danced with them. After they danced with them, they put them on a pole which was in the middle of the singers. I do not know why they danced with those hoops. They never used them as they do in cures. The first time they used them it was to see if the dance would be conducted or not. [Today the hoops are used in two ways: one is to draw out the power which is causing a person to be ill; the other is to discover which power is causing the illness.]

The first time they had a big sweat bath, but that was the only time. After that, they just put up a regular-sized sweat bath. Not everyone got in there. I did not go in there. I just stayed for dinner because a lot of food would be brought there.

Here are the words to some of the *dahgodiγáh*. They are like condemned songs [no longer considered sacred], which have been thrown away.

niʔgosdzán	*na·he·s'ná·*	*na·he·s'ná·*
earth	it moves	it moves

This is repeated over and over again: just these words. It is the way we sang while dancing in that snake formation. It means that the earth is moving with new life. It was what we were dancing for.

yá·dił xił	*na·he·s'ná·*	*na·he·s'ná·*
black sky	it moves	it moves

This was a different song for the sky, just like the one before was for the earth. It meant that the sky had new life and was moving about just as the earth was. It was also sung while in snake formation.

yá sizį́·	*yá sizį́·*	*ba·yáda łiʔígo*
sky stands	sky stands	they are talking about it (sky is being talked about)

This means that lots of people have been talking about the sky; holding all this ceremony about it. All of these songs are Big John songs.

Of the other songs I only know the choruses. The verses were too hard. All I know is that they sang about *yó·sń, na·γé·ʔne·zγáné,* and all the other people like *ʔisdzą́nádle·hé* [Changing Woman]. That is why Emory Starr liked these songs, because they were about all those good people from above. Only Big John knows the verses to these songs. When he sang them it was just as if he had told you where he had been (up above), alive, in his dreams.

Big John was a medicine-man when he was a young man. He went to school at Rice for two or three years. He had lightning power [supreme power] and I used to hear him sing during vacations. Then some years later he started up this *dahgodiγáh.* He did that for the next four years. Now the people still think he is a good medicine-man, but he practices no *dahgodiγáh.* He uses his lightning power only. About 1930 Francis Drake's house down here at Bylas was struck by lightning and a lot of hay and corn in it was destroyed. That summer he went up to Fort Apache and hired Big John to sing over him. He did and told him that the lightning had meant to take him but got the house instead. He fixed the wickiup for him.

After they left off the *dahgodiγáh,* even then the people did not believe that Big John was a fake. They believed that he was the only one of the whole bunch who was really right. He alone lived. All the rest died. So he must have been on the right track. They said that it was all true, but that something must have gone wrong somewhere, so that it did not come out as Big John had planned. The others either fooled the people or were fooled by the power into believing that they were doing right. It was this that killed them.

R-14 up at Cedar Creek had lightning power, so he sang some lightning songs over the man who was head of the *dahgodiγáh* there in order to find out where his power was coming from. From this sing R-14 found out that it was not really thirty-two men in the sky telling him what to do, as he had thought, but it was one man who turned himself into thirty-two different ones just to deceive him. This was *t'ci· dńnant'áń* and he was purposely misguiding this medicine-man to fool him. He told him that it was not the real thing at all. *T'ci· dńnant'áń* meant to kill all us people by this. He did get all the medicine-men except Big John. The medicine-man admitted that he had had a dream about thirty-two people telling him things, but he would not believe R-14 about the rest and went ahead. It killed him. He was about fifty-five years old. I do not know whether he had lightning power or not.

"Be good. Behave yourself. Obey this man (Big John). That's the only way you will have long life." This is the way the disciples of Big John used to talk to us at the dances. They did this of their own accord. These men were like the disciples

of Jesus. *Bina·ʔa²* is what a disciple is called. They also use this for a man who does anything you tell him to do. It was used before Big John started.

Each of Big John's disciples was in order: number one, number two and so on. They spoke in order also and in this way each would know when his turn to talk would come up. This way about four of these would speak each night. The other duties were to show the people how they should dance and do. Big John had told them how they should do this. Also it was for these men to repeat Big John's words when he spoke to the people, loudly so they could hear. Big John did not instruct them about the power though.

Each of the leaders had disciples. These disciples would tell us about our clothes, to remember our names, not to go far on a cloudy day, and to always keep pollen wherever we went.

Big John meant that all peoples should go to this new land that we danced for. Not only our people, but Whites and Mexicans; the good people from all over the world. Only the bad people from each nation would be kept behind to meet no one knew what fate. He did not mention if there would be stores in the next land. He just talked about a place where no sickness would be; where wild fruits would be ripe all the time. I do not know if he intended that we should be as we were in the old days again, before the Whites came, or not.

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STUDIES IN AFRICAN LINGUISTIC CLASSIFICATION: VIII. FURTHER REMARKS ON METHOD: REVISIONS AND CORRECTIONS

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SINCE THE APPEARANCE of the first seven articles of this series, I am indebted to many for published and unpublished comments which have called attention to specific matters of detail as well as some general problems of method.

The intervening period has likewise been marked by an abundance of publication on African languages, some of them hitherto very inadequately reported. During the last year I have undertaken a review of the linguistic data for the entire continent. The purpose of the present article is to outline the results of this reconsideration of the data and to add some remarks by way of clarification of the general method employed in the light of the comments and criticisms which I have received.

The two fundamentals of method underlying the present classification are the use of mass comparison and the emphasis on specificity of resemblance as relevant in establishing genetic relationships. While I was only dimly aware of the significance of mass comparison at the time of writing, the second factor, specificity, received considerable notice both in the introductory section of the series and elsewhere in the exposition. This factor may be stated somewhat more elegantly as follows. Only those comparisons are relevant to genetic relationship which involve resemblance both in the sound and meaning of specific forms. Resemblance in sound only, for example, the presence of a tonal system as such, or in meaning only as in the existence of morphemes indicating sex gender but without phonetic similarity are irrelevant. On this point, to judge from the comments I have received, there is now general agreement in principle. Apparently nobody has defended the traditional classification which made extensive use of criteria based on sound only or meaning only and thus confused typological non-historical with historical-genetic classifications. Such sound-meaning resemblances are equally relevant for root morphemes (vocabulary) and affix morphemes (morphology). I stress this because a few have, in spite of explicit contrary statements, understood the method as involving basic vocabularly resemblances only. Related languages, of course, show resemblances both in vocabulary and grammar, and contradictions no more appear in Africa than they do in Europe or the Near East, provided only that irrelevant resemblances in form only or meaning only are excluded.

The importance of mass comparison as opposed to isolated comparisons between pairs of languages has become clear to me as a result of certain questions of a general nature raised by a number of critics. Basically these criticisms come to two: a doubt as to the feasibility of drawing genetic conclusions of wide scope and the belief that the present classification is arbitrary in the sense that just as good evidence might be assembled for other classifications cutting across the one presented in this series.

The former of these criticisms seems surprising in view of the over-all conservatism of the classification which posits more independent language families for Africa than any previous attempt. This objection, which appears to be widespread among linguists, is understandable as a reaction against the previous catch-all use of such terms as Hamitic and Sudanic. It should be realised, however, that no concrete evidence of the kind which documents this series was ever assembled for the total assumed ranges of these language stocks. When resemblances can be assembled which are recurrent in many languages, which extend over vast and widely separated geographical areas and which encompass elements with morphological functions, pronouns, and the most stable parts of the vocabulary (most stable on *a priori* grounds and on the basis of our knowledge of areas with written records), then common origin is the only adequate explanatory hypothesis.

The importance of resemblances recurrent in a large number of languages as plausible outcomes of some single ancestral form as elicited by mass comparison is of very great evidential power in excluding either chance or borrowing as explanations. Considerations derived from the elementary theory of probability helps to make this explicit. In fact, I had no such considerations in mind when I first undertook the present classification, since the importance of widespread specific resemblances was evident even when not formulated in these terms.

Let us assume even that accident resemblances between two languages can be rather high, say twenty percent. The chance that some single meaningful form will appear with similar sound and meaning is then 1/5. The chance that this same element will appear also in some third languages is the square of 1/5, that is 1/25. In general, given n languages the chance that a resemblance will occur in all of them will be $(1/5)^{n-1}$. It is easy to see that this ratio rapidly becomes infinitesimal with the increase in n, in other words, resemblances running accidentally through a large number of languages will occur only with the utmost rarity.

Many linguists acquainted with only two or three languages of a family are thus not in a position to assess the importance of the resemblances they note because of this neglect of mass comparison. Much of the relevant evidence for relationship will not appear in such a procedure. Suppose one were to compare English with Hindustani only. The tendency of these resemblances to recur in

other languages of the Indo-European family would not be realized. If they were not related, very few such recurrences would be found. Moreover, many facts about English which point to its being Indo-European would not be taken into account if these traits happened to be among those lost in Hindustani and vice versa. For example, a comparison between English and Russian would reveal many resemblances not found in Hindustani while a comparison of Hindustani with Russian would reveal many resemblances not found in English. But any facts which showed that English belonged to some larger group or that Hindustani belonged to the same larger group is relevant to the common origin of English and Hindustani. Each additional language thus brought into the comparisons adds further connecting links tending to establish the validity of the structure as a whole.

In regard to the second problem, the supposed arbitrariness of such a classification, the best test is the pragmatic one of actual performance. If someone will produce a comparable set of proposed etymologies and morphological elements cutting across the families found here and having the properties of widespread distribution, semantic plausibility, and appearance of regular phonologic development from a common original, the arbitrariness will have been proved. I do not believe that this is any more possible than to demonstrate that Finnish, Basque, and German belong to a single family, while Hungarian, Greek, and Hebrew belong to another.[1]

A final and fundamental question remains, raised particularly by Haas and MacQuown,[2] namely what constitutes resemblance in form and meaning. With this is connected the problem of the role of phonetic correspondences. The topic is worthy of extended discussion which cannot be attempted here. In practice there is no real difficulty where mass comparison is involved. One line of approach would be some such reliability measure as that employed by psychologists. That is, far beyond chance agreement would, I think, be found even among the linguistically unsophisticated. The question is not whether every etymology thus suggested would ultimately turn out to be correct, but whether the agreements noted would be sufficient to lead to the same genetic groupings of languages. Perhaps a small demonstration will be of more value than detailed discussion. The most convenient

1 However, where the families given as independent turn out to be related at a more remote level, as in the case of Macrosudanic described later in this article, one could assemble a small number of etymologies cutting across families. Thus, since Macrosudanic consists of Eastern Sudanic, Central Sudanic, Berta, and Kunama one might quote etymologies to show that, say, the Nubian branch of Eastern Sudanic is related to the Moru-Madi branch of Central Sudanic. Such etymologies would never be as large in number as those relating Nubian to other branches of Eastern Sudanic or Moru-Madi to other branches of Central Sudanic. It would not be possible, moreover, to show that Nubian (Eastern Sudanic) and Moru-Madi (Central Sudanic) form a distinct family as opposed to, say, a family consisting of Nilotic (Eastern Sudanic) and Mangbetu (Central Sudanic). In this sense, cross-cutting is not possible.

2 By Haas in conversation; by MacQuown, American Anthropologist, vol. 56, 1954, p. 477.

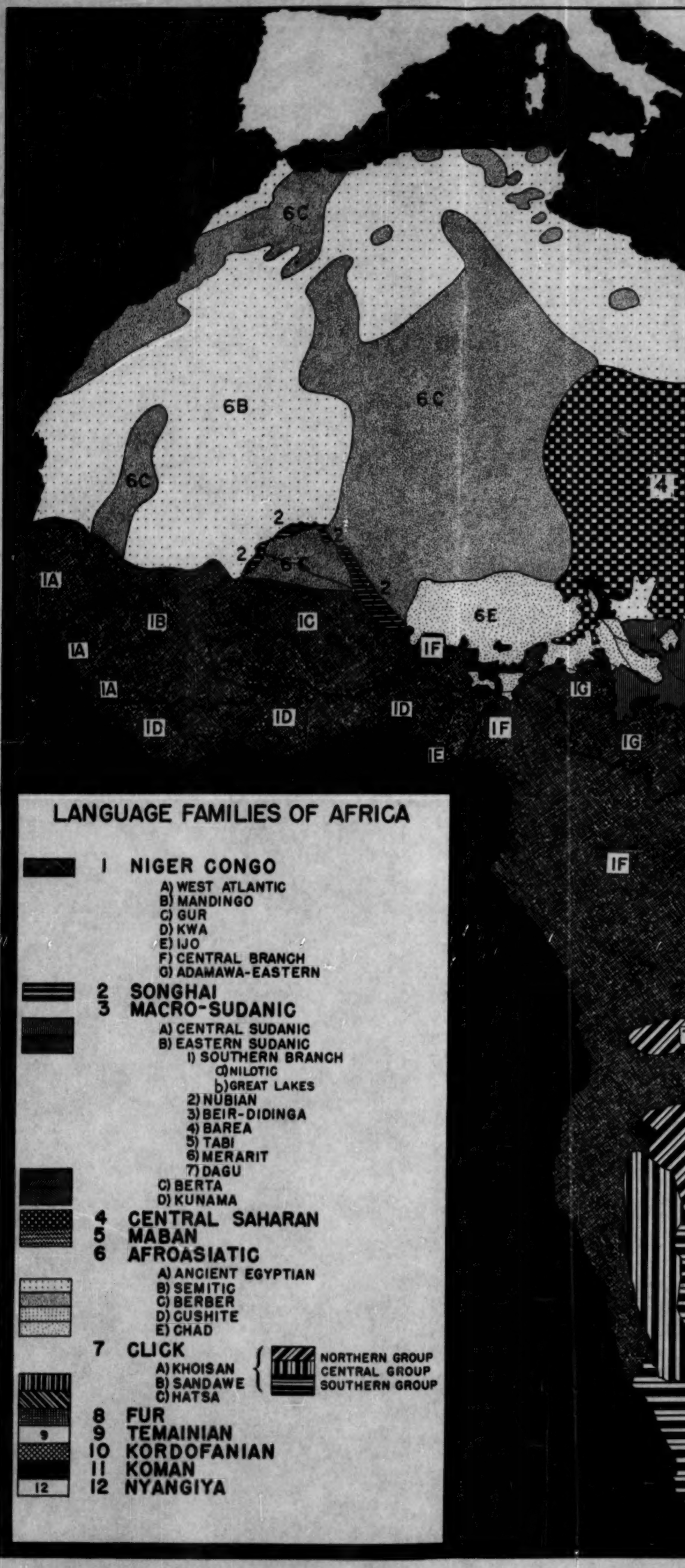

FIG. 1. The language families of

of Africa (revised).

method is a table of pronouns, grammatical elements, and vocabulary for the languages involved. Such a table when prepared for European languages leads to the universally accepted classifications regarding relationship, even with a very small number of items. The following table has been prepared for a very small number of African languages and a very few items of vocabulary. The forms I consider to show likelihood of common origin are indicated by similar symbols.

	one	two	three	hand	eye	ear	mouth
1.	sang	● su	soti	yung	● sing	——	● a
2.	wate	■ iba	● tati	ju(le)	no(do)	● to(go)	yabodo
3.	● toro	● ču	agozo	● daho	● samo	■ sumo	■ či
4.	■ ili	● iwa	● ita	ilɔ	ewu	● ɔtɔ	▲ ɛnu
5.	mwe	bali	● tato	■ (li)-to	(le)-iso	● (ku)-toi	▲ (mu)-nywa
6.	● tilo	ndi	yasko	kela	● sim	■ sumo	■ či
7.	kiet	■ iba	● ita	■ ɛte	enyin	● utong	▲ inua
8.	lakoi	● swe	we	● taha	i	kebbe	● a

Grammatical prefixes and suffixes are enclosed in parentheses since what we are comparing are morphemes, minimal units having a meaning. Even the first two words lead to a separation of these languages into two groups: I—1, 3, 6, 8; II—2, 4, 5, 7, which is confirmed by the other words. The two families are I. Central Saharan, II. Niger-Congo. The languages are 1. Berti, 3. Teda, 6. Kanuri, 8. Zaghawa, 2. Kotopo (Adamawa), 4. Ahlō (Togo), 5. Proto-Bantu, 7. Efik. The addition of several hundred Niger-Congo languages and many additional words or grammatical forms would lend continuous further evidence for this same division.

REDUCTIONS IN THE NUMBER OF INDEPENDENT FAMILIES

Several times in the earlier articles of this series, the possibility of a relationship between Kunama and Eastern Sudanic was raised. In 1950, Sisto Verri published a large number of suggested etymologies linking Kunama with Latuka and Bari of the Great Lakes branch of the Eastern Sudanic family.[3] A more detailed examination of the languages in this area not only confirms the Kunama-Eastern Sudanic hypothesis but adds Central Sudanic and Berta as members of a major linguistic stock. Evidence for this family, here called Macrosudanic, is presented below.

Another simplification which emerged from the reëxamination of the data concerns the language called Mimi by Nachtigall. With the assistance of fuller Maban material, it now appears that while it is indeed distinct from the Mimi language

3 *Saggio di Comparazione Lessicale fra il Cunama e le Lingue Bari e Lotuxo* (Anthropos, vol. 45, pp. 618-626, 1950).

reported by Godfrey-Demombynes, both are related to Maba. The suspected relationship between Songhai and Niger-Congo was also examined but without positive results. The revised list of genetically distinct language families thus becomes: 1. Niger-Congo, 2. Songhai, 3. Macrosudanic, 4. Central Saharan, 5. Afroasiatic, 6. Click, 7. Maban, 8. Fur, 9. Temainian, 10. Kordofanian, 11. Koman, 12. Nyangiya.

THE MACROSUDANIC FAMILY

In order to avoid the repetition of Eastern Sudanic forms already cited in the fifth article of the series, grammatical resemblances between Eastern Sudanic and other members of the Macrosudanic family involving such forms will be added under the numbering of the earlier article.[4] In addition there are some items not involving Eastern Sudanic or found in Eastern Sudanic but not quoted there which will receive separate treatment.

Macrosudanic Morphological Elements

1. *First person singular pronoun.* Kunama *a-* (verb subject); Lokai Madi (Central Sudanic) *a-* (verb subject); Mangbetu (Central Sudanic) *-(ndr)a* (possessive); Berta *a-* (verb subject).

2. *Second person singular pronoun.* Kunama *e-* (verb subject); Lokai Madi (Central Sudanic) *i-* (verb subject); Bungo, Sara, Ndokoa (Central Sudanic) *i-* (independent pronoun).

3. *Second person possessive pronoun.* Mangbetu (Central Sudanic) *-(ndr)u.*

5. *n/k singular-plural alternation in demonstratives.* Moru (Central Sudanic) *ɔnɔ/koi* 'this'; *ana/kai* 'that'.

6. *ma relative and adjective formant.* Kunama *-ma;* Mangbetu (Central Sudanic) *m-.*

11. *Plurals in k-, ka-, ki-, ku-.* Sara dialects (Central Sudanic) *-k, -g, -ge.*

14. *Plurals in i.* Kunama *-i;* Berta *-e;* Muru-Madi group (Central Sudanic) *-e, -i.*

18. *Locative singular in t.* See vocabulary below under 'in'.

19. *Locative singular in l.* Kunama *-la* 'in'; Moru-Madi group (Central Sudanic) *-le.*

22. *Copula and tense formative a.* Mangbetu (Central Sudanic) *a* (singular only, cf. Masai); Moru (Central Sudanic) *a.*

23. *Verbal plural in -k.* Madi *-ki* (first person plural only, as in some Eastern Sudanic languages); Logbara, Keliko *-ki* (Central Sudanic, all persons).

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4 *Studies in African Linguistic Classification: V. The Eastern Sudanic Family* (Southwestern Journal of Anthropology, vol. 6, pp. 143-160, 1950).

The third person singular pronoun or demonstrative is an additional point of pronominal resemblance: Fazozlo (Berta) *ine* 'he'; Tabi (Eastern Sudanic) *ine* 'he'; Mangbetu (Central Sudanic) *ine* 'he, that'; Barma (Central Sudanic) *ina* 'this, that'; Kunama *ina* 'this, that'.

In the verb, a matter worth further investigation is the occurrence of conjugational classes marked by characteristic vowels. These are somewhat analogous to the conjugations of classical Latin but with prefixes rather than suffixes. The parallel is closest between Mangbetu (Central Sudanic) and Kunama. The 'characteristic vowel' of Tucker's description of the Moru-Madi languages is apparently a related phenomenon and there are hints of its existence elsewhere in Central Sudanic.

A most important indication of relationship is the existence of alternative substantival forms with and without a prefix *k-* which possibly originally functioned as an article. Among different languages or even dialects of the same language, some show *k-* and some do not in related forms. Occasionally both forms are even found in the same language. This phenomenon is common to Eastern Sudanic, Central Sudanic, and Berta. Kunama generally has ŋ<*k* in such forms. Numerous examples may be found in the following word list.

Macrosudanic Word List[5]

ashes: C. Bongo *burruku;* Berma *burgu;* Keliko *ɔfɔrago;* Logbara *ɔfɔra.* D. Didinga *bur;* Nile Nubian *obur(ti), ubur(ti);* Shilluk *bur;* Lango *buru;* Bor *bur;* Alur *burru;* Acholi *bvuuru.*

back: A. Kunama *kula.* B. Tornasi *ungora;* Malkan *gorum.* C. Avokaya *ugulɛ, ogule;* Logo, Keliko *gɔlɛ; Logbara ogɔrɔ.*

bad: B. Fazoglo *zu.* C. Kabba *kasu;* Kredj *gosidi;* Maru *kosi(ro);* Logo *kɔnzi;* Moru *ɔnzi;* Sara Gulei *ose.* D. Fadidja *ũz;* Mahas, Kenuz, Dongola *ũs;* Old Nubian *akossi;* Kenuz *kos;* Barea *koš(ko);* Didinga *gasi.*

belly: B. Fazoglo *io.* C. Lendu *o;* Moru *ya, ia, 'a;* Avokaya, Logo, Keliko, Madi *'a;* Logbara *'ya;* Mangbetu *o.* D. Dinka *ya(č);* Lango *i(č);* Acholi *ĩi;* Alur *ihye;* Nuer *e(č).*

black: C. Sara Denje *kili;* Dissa *keti;* Kaba, Barma, Ndokoa *ili;* Mbay *kil;* Kredj *ɣili.* D. Dagu *gira, gil;* Merarit *kidi(k).*

blow (wind): A. Kunama *fu.* B. Bertat *fu.* C. Lendu *vu;* Moru *ɔvɔ;* Avokaya *vɔ;* Loco *vo;* Keliko, Logbara *vɔ;* Madi *vo, vɔvu.* D. Didinga *bu.*

5 Here also the repetition of forms already quoted is avoided. Parenthetic notations at the end of some of the following etymologies refer to the particular word in the alphabetized listing at the end of the fifth article of the series, from which the forms are to be added to the present citation.

body: A. Kunama *ula.* C. Makunda *lo;* Moru *ro;* Madi *ru;* Moissala *ru.* D. Shilluk *rau;* Didinga *ɛlɛ.*

bone: C. Lendu *kpa;* Momvu *iku, ihu;* Bambuba *ikui;* Moru *kɔwa, kwà;* Madi *kwà;* Mangbetu *kwo, kpo;* Gberi, Mittu *ngba.* D. Nandi *kowo;* Bari *kUyU';* Shilluk *čoo;* Anuak *čo:;* Nuer *čwa.*

to burn: A. Kunama *taku.* C. Kredj *ošaki;* Barma *saga.* D. Latuka *osuaʔa.*

child: B. Fazoglo *gadi;* Berta *gad* (and 'child').

cold: A. Kunama *giggida.* C. Logo *kɪd'dya;* Avokaya *kɪ'dɛ;* Moru *ki'dɪ;* Momvu *ketu;* Mombutu *ketu.* D. Gulfan *kid;* Dair *kid;* Nandi *kaitit;* Merarit *ki:ri.*

to cook: A. Kunama *ili.* C. Lendu *ri;* Madi *'di;* Keliko, Logbara *a'di.* D. Mahas *urre* 'to burn'; Dongola *ulle* 'to burn'; Bari *yura* 'to burn'; Masai *yerr;* Barea *wor* 'to burn'.

to count: A. Kunama *kala.* B. Fazoglo *gera, hana.* D. Didinga *gil;* Bari *ken;* Nuer, Dinka *kwen.*

cow: B. Berta *tu.* C. Moru, Madi, Keliko, etc. *tí;* Lendu *tsźz* (and 'cow').

day: C. Bongo *kadda;* Sara *kad, kada, kar;* Kredj *kadda;* Mombutu *kora* (and 'sun').

to die: A. Kunama *ti, tu.* C. Bulala *tiy* 'to kill'; Madi *'di* 'to kill'; Logo *'di* 'to kill'; (and 'to die').

dog: C. Mittu *wisi;* Bongo *bisi;* Mangbetu *si;* (and 'dog').

dove: A. Kunama *kurkuja.* B. Berta *kurkudu.* Madi *gure* (and 'dove').

earth (No. 1): A. Kunama *dega.* B. Fazoglo *dzaga.*

earth (No. 2): C. Mangbetu *pe;* Sara *be* 'land'; Bongo *bihi.* D. Suro *ba, bwi, baha;* Dinka *pi(hy);* Shilluk *fe(ny);* Nuer, Anuak *pe(ny).*

egg: C. Walese *kabobo;* Moru *kău'bwo;* Sara Denje *kobe;* Sara Dissa *kabe;* Ndokoa *kap.* D. Didinga *kobi;* Merarit *kwɔbo;* Old Nubian *kumpu;* Mahas *kombu:.*

excrement: C. Bulala *isi;* Bongo *ši;* Moru *ʒɛ.* D. Merarit *iši;* Barea *iš.*

to fear: C. Moru *kuri, uri;* Madi *ori;* Mangbetu *ru;* Avokaya *rɔ;* Keliko *rʊ.* D. Masai *ure* (*kuret,* noun); Nandi *koret* (noun); Barea *kor;* Mountain Nuba *er.*

to finish: A. Kunama *tu:le:.* D. Bari *tulõ(ki')* 'be finished'; Nandi *tar;* Dinka *thol.*

fire: B. Berta *mo;* Fazoglo *mo;* Sillok, Malkan, Tornasi *ma.* D. Tabi *mo* (and 'fire').

fly: B. Fazoglo *horoŋ xoroŋ.* D. Didinga *kiroŋit, xiroŋit;* Bari *kadongonti;* Nandi *kaliaŋ;* Mahas, Dongola *kulti.*

to go: A. Kunama *li.* C. Logbara *'ʊ;* Kredj *loɔ;* Mombutu, Momvu *uro;* Efe *oro;* Lendu *ra.* D. Masai *lo;* Dinka *lɔ;* Merarit *lo, la.*

hand: C. Mombutu *adi* 'arm'; Momvu *edi* 'arm'; Moru, Logo, Logbara, Avokaya *dri;* Madi *dri, di;* Mangbetu *ete* 'arm, hand'; Walumbi *eteo;* (and 'hand').

head: B. Berta *allo;* Sillok, Malkan, Tornasi *ola;* Bertat *alu, kulu;* (and 'head').

to hear: A. Kunama *uku(na)* 'ear' (literally 'that which hears'; *-na* is an agent suffix). C. Mangbetu *(o)ga;* Barma *o:ga;* Bondo *ugga;* Efe *odze.* D. Nubian *ukki(re);* Bari *yiŋgga.*

hole: A. Kunama *bora; boro* 'to bore'. B. Fazoglo *abur 'cave'.* D. Shilluk *bur;* Didinga *bor* 'to bore'.

in: A. Kunama *-ta* 'in'. C. Mangbetu *ta* 'in'; Kredj *ta;* Bongo *do.* D. Lotuku *oto* 'at'; (and 'be in a place').

jaw: A. Kunama *goma* 'jaw, chin, beard' (and 'jaw').

lake: B. Fazoglo *bulli;* Bertat *bulu* 'stream'. C. Madi *a'bulu;* Bambula *boroboro* 'river'. D. Didinga *'bɔ́rrɔ̀(k);* Longarim *mɔ́rɔ̀* 'river'; Merarit *bi:rok, billok* 'river'; Mahas, Dongola *mere:;* Nuer *bar.*

to laugh: A. Kunama *ke:ke:, jiji.* C. Moru *gugu, gu;* Bongo *ikuggu;* Barma *akkogo.* D. Fadidja *jig, jij;* Mahas *jigy.*

man: B. Bertat *ide.* C. Denje, Kaba *de;* Baka *oda;* Kredj *uddu;* (and 'man').

meat: C. Mangbetu *ri, riŋi;* Walumbi *eri;* (and 'meat').

milk: B. Fazoglo *err;* Sillok *i:ri.* D. Kenuz *er(ti), ir(ti);* Didinga *ira'; irya'.*

moon: A. Kunama *tera* 'moon, to shine'. C. Mangbetu *turu, tulu* 'star'. D. Tabi *turu;* Dugu *tuluŋei;* Bari *tyɛr(ja)* 'to shine'.

mother: C. Madi *ia;* Walegga *ia;* Lendu *i;* Mangbetu *aya;* Walumbi *yaiya;* (and 'mother (my)').

mouth: A. Kunama *u:da.* B. Sillok *utu;* Tornasi *udu.* C. Mombutu *uti;* Moru *ti.*

mud: A. Sillok, Malkan, Tornasi *koro* 'earth'. C. Moru *kuru, kure;* Logo *kuru.* D. Merarit *ŋguru(k)* 'earth'; Mahas, Fadidija *gur* 'earth'.

name: C. Mangbetu *eru;* Moru, Madi *ru;* Barma *ri;* (and 'name').

near: A. Kunama *do:la:.* D. Turkana *dol* 'arrive'; Bari *dur* 'approach'; Barea *til, tül* 'arrive'.

neck: B. Berta *mbe.* C. Moru *embɛ;* Avokaya *ɛmbɛ;* Keliko *ombɛ;* Mangbetu *mbu.*

nose: B. Berta *amu;* Malkan *mudi;* Tornasi *amu:ti.* C. Kredj *umu;* Keliko *umvu;* Logo *komvu;* Mangbetu *mu;* Bongo *hommo.* D. Anuak *om;* Shilluk *wum;* Bari *kume;* Masai *eŋume.*

to put: A. Kunama *tu:.* C. Mangbetu *tu.* D. Bari *ti, tin;* Suk *ten.*

rain: B. Berta *ro:;* Sillok *aro;* Malkan *aro:.* C. Madi *oru* 'sky'; Lendu *ra, arra* 'sky'; Momvu *karu, karo* 'sky'; Mangbetu *ru* 'sky'; (and 'rain, water').

rich: A. Kunama *abura.* D. Latuka *bara* 'to be rich'; Kenuz, Dongola *ber* 'to be rich'.

road: B. Fazoglo *gagal.* C. Bulala *kori, gõri.* D. Bari *gõr;* Dilling *okul;* Kondugr *oŋgul;* Kenuz *gir.*

salt: A. Kunama *kunda.* C. Sara *kate, kata;* Mangbetu *gandyu.* D. Nuer *kadɛ;* Anuak *kado;* Dinka *kada;* Shilluk *ka:do.*

shoulder: C. Keliko, Logbara *kudɪ;* Moissala *kad* 'side'. D. Bari *kɪdɪ;* Dinka *ket.*

sick: A. Kunama *bada* 'sickness'. B. Bertat *bedi, bedo.* D. Shilluk *budo.*

to sleep: A. Kunama *niŋi.* C. Madu *nonu.* D. Nuer *nyɛn;* Dinka *nin;* Shilluk *nɛn;* Nile Nubian *ne:re.*

snake: B. Sillok *kuke.* D. Didinga *xuka:t, kukat;* (and 'snake').

to split: A. Kunama *fak.* D. Fadidja, Mahas *fag;* Kenus, Dongola *bag;* Bari *põggu;* Latuka *'pɛk;* Shilluk *pa:ŋ;* Nuer *bak.*

star: C. Bongo *kirr;* Mittu *keru;* Baka *kele.* D. Shilluk *kyelo;* Dinka *kwel;* Nuer *čyɛr;* Anuak *če:ro;* Masai *-kerr.*

stick: A. Kunama *be:la:.* D. Lango *abela;* Turkana, Karamojo *ebela;* Bari *'bi'bili.*

stone: B. Berta *bele, bar;* Sillok *pela;* Malkan *fela;* Tornasi *bela.* C. Mangbetu *bula;* Sara *mbal, bal.*

tail: B. Fazoglo *abwe.* C. Moru *avi;* Avokaya *avi.* D. Alur *ihve;* Acholi *iib, yip;* Lango *ip;* Shilluk *yip;* Karamojo *i:p.*

thing: A. Kunama *ŋa:.* C. Moru, Avokaya, Logo, Keliko, Logbara *ŋgá;* Madi *ŋgáà;* Makunda *ŋe.* D. Bari *ŋo.*

thirst: B. Bertat *rau.* C. Keliko *ure;* Logbara *uri;* Logo *ɔlɛ.* D. Nuer *rau;* Anuak, Alur, *rio;* Dinka *rou;* Shilluk *ryou;* Lango *oreo;* Didinga *kɔra';* Longarim *kɔra;* Bari *kurɛ.*

thorn: C. Moru *kukyi, ukyi;* Logo *kuči;* Keliko *kutsɛ;* Madi *oki, ɔki;* Mangbetu *koko.* D. Dinka *kou;* Nuer *kwɔk;* Turkana *akokai;* Masai *-kigui;* Latuka *(ne:)kwa.*

tongue: A. Kunama *ŋe:la:.* B. Berta, Sillok, Malkan, *kula;* Tornasi *unkula;* Fazoglo *halad.* C. Mangbetu *kadra;* Momvu *kedru;* Mombutu *kadru.* D. Tabi *kalat;* Dagu *kulda;* Merarit *la:t;* Garko *jalde;* Kundugr *jaldu.*

two: C. Lendu *rro;* Mombutu *adru;* Moru *ărr, ɪrrɪ,* Madi *erì, rì;* Logo, Keliko, Lugbara *irì;* Mangbetu *orue;* Tele *rwio;* Bongo *riio.*

to wash: A. Kunama *saki:.* D. Bari *jɔgga;* Fadidja, Mahas *jug.*

water: A. Kunama *biyo.* B. Fazoglo *fie;* (and 'water').

white: A. Kunama *ara:;* (and 'white').

who?: A. Kunama *na;* (and 'who?').

SUBGROUPS OF THE NIGER-CONGO FAMILY

The problems of grouping within a linguistic family are often more difficult than the mere determination of over-all linguistic relationship. For example, there is not the slightest doubt among students of Indo-European as to which languages are to be included, but such questions as the position of Hittite and the existence of a separate Italo-Celtic branch are still the subject of lively controversy. The situation in regard to the Niger-Congo family is much the same. There does not seem to me any reason for uncertainty regarding the membership of the family as a whole, whereas subgrouping presents a number of difficult problems. The scheme presented in the first article was stated to be tentative. The present classification is much more definitive and I believe that subsequent research will not produce any major revisions. The criteria for each branch will eventually be published in connection with a contemplated basic outline of the comparative phonology and morphology of the Niger-Congo languages.

The classification presented here divides the Niger-Congo languages into seven branches. I still have lingering but probably unjustified doubts regarding the membership of the Kru languages in the Kwa division and in the unity of the Adamawa and Eastern branches to form the seventh division.

1. West Atlantic

2. Mandingo

3. Gur. This includes the usual Mossi-Grunshi languages. The Senufo languages formerly listed separately belong here. In this respect, I was mistaken and Westermann was correct.

4. Kwa. A number of subgroups earlier listed separately belong here. These include the Middle Togo ("Togo Restsprachen") and the Western, Central, and Eastern Ivory Coast Lagoon groups. The Ewe, Akan and Gā language groups belong in the same subdivision of Kwa as the Togo and Ivory Coast Lagoon languages. The specially close relation of the Togo languages, Twi, and the Lagoon languages has also been noted by Bertho.[6] Farther east, Yoruba, Npue, Ibo, and Edo belong here, in accordance with the usual reckoning. I am indebted to Mr Armstrong for calling my attention to the anomalous position of the Yala (Idoma) group which was erroneously placed in the Central group. It, also, is a Kwa subgroup. Likewise the apparently extinct Eregba language belongs here.

5. Central group. The Bute language, formerly assigned to a separate division belongs here, while, as note above, Yala should be excluded as belonging to the Kwa

6 *La place du dialecte Adiukru par rapport aux autres dialectes de la Cote d'Ivoire* (Bulletin, Institut Français de l'Afrique Noire, vol. 12, pp. 1075-1094, 1950).

subdivision. Anyang, listed as a separate group within the Central branch, is a Cross River language which is particularly close to Ekoi and Boki.

6. Ijo

7. Adamawa-Eastern. The ambiguous position of Gbaya, mentioned in the first article, is symptomatic of the probable special relation of the Adamawa and Eastern branches.

THE POSITION OF BANTU

Of the so-called Semi-Bantu languages stated to be Bantu in the third article of the series, a reappraisal of the evidence shows that this is valid for all the languages mentioned there except Jarawa. This widespread group of dialects is not Bantu but it is particularly closely related to Bantu as a whole within the Central branch. The similar special position of Munshi led Abraham to a comparable error in asserting that Munshi was a Bantu language. The following group of languages containing Bantu seems to form a distinct subgrouping within the Central branch: 1. Munshi, 2. Bitare, 3. Batu, 4. Ndoro, 5. Mambila, 6. Bantu, 7. Jarawa. The location of these languages strongly suggests the central Benue valley as the area of Bantu origin.

Comparable subgroupings within the Central branch are the Cross River languages, a group consisting of Jukun, Kyentu, Nidu, and Tigong and a Plateau group consisting at least of Katab, Kagoro, Piti, Chawai, and Ham but probably more extensive. The evidence in this area is particularly scarce.

Finally, an error in the over-all classification was made in regard to the Yergum language, which was mentioned both as a Niger-Congo language of the Central group and a Chad language of the Afroasiatic family with a double listing in the index. There is only one Yergum language and it belongs to the Central group of Niger-Congo languages.

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THE SYSTEM OF TEKNONYMS AND DEATH-NAMES OF THE PENAN

RODNEY NEEDHAM

THE PENAN (pənan) are forest nomads of the interior of northwestern Borneo. In the literature they are known as "Punan" and confused with the nomadic Punan. They wander in isolated groups of thirty or forty individuals and are divided into two culturally differentiated tribes, the Eastern Penan and the Western Penan. Their kinship system is cognatic, with a bilaterally symmetrical classificatory terminology and ambilaterally traced descent.

I

In the general extreme simplicity of Penan culture the types of names and the usages connected with them stand out in surprising complexity. In this paper I shall deal with two types of name which present anthropological problems of great interest.

Any married Penan with children may be known by a teknonym as well as by a personal name. By a teknonym I mean a name which indicates that the person designated by it is the parent of a child.

On the birth of a child to them both parents acquire teknonyms, and it is by these names that they will thereafter be known until there is occasion to change them in one of the ways set out in the course of this paper. The constants in the teknonyms are "Tama," which is assumed by the man and means "father [of]," and "Tinən," which is assumed by the woman and means "mother [of]." One might hesitate a little to call the latter a teknonym in that it is the same as the ordinary word for "mother," and because it could be maintained that to call a woman by it is merely a biological description and not a form of title. But the name Tinən is subject in this context to the same changes as Tama, which I shall describe presently, and can therefore be considered a true teknonym.

Tama can be adopted only by the man who is the begetter and father of the child, what the Penan call the "true father." If a man has merely adopted the child he is not known as "Tama" but as "Tamən," which is the ordinary descriptive term for a father. This points the fact that he is the social father of the child but not its begetter.

The teknonyms are not used by themselves but are always followed by another name. While the child is unnamed the father is known as Tama Ukət if it is his first son, and as Tama Alə if a teknonym is assumed for any of his subsequent sons.

The father of an unnamed girl child is known as Tama Itəng, whether it is the first or any subsequent daughter. One Penan elder explained that Tama Alɜ comes from the word *balɜ*, red. A new-born child may be known as *anak balɜ*, red child, "because its skin is red," and it is maintained that Alɜ comes from this. But no explanations are given for the names Ukət and Itəng, which are used only in this context and do not seem to derive from any other Penan words.

With the naming of the child the teknonyms become more specific. The father of Awing, for example, becomes Tama Awing, and the mother Tinən Awing. This is the type of name that is most often used in address and in reference. The personal name is very seldom used, and the kinship terms more frequently, but if a man is entitled to one he is normally addressed by his teknonym.

The teknonym is used during the life of the child referred to in it and is discarded at its death or at the death of any subsequent child. In this case the parent is not known by another teknonym until the birth of another child. It does not count that he or she still has a number of other children: their names cannot be used in teknonyms, and the parent cannot bear another teknonym until he has another child.

The Penan say that not to be able to asume a teknonym, not to have a child, is not a matter of shame, and conversely that to address a man by his teknonym is not to honor him. "If you have no child that is the will of God, because he does not want to give you one. It is not your fault. You are sorry because there is no one to replace you, no one to remember your name [as father]. But you are not ashamed. Why should you be?" Nevertheles, it is felt that a man with children is in some way superior to one without, and a childless man or (especially) a barren woman feels the unease of a certain inequality. This does not contradict the Penan statement that the teknonym is not an honorific. To address a man by his teknonym is to use the form of address to which he is entitled. It is not used on occasion to "make him feel good" or to indicate whatever superiority he may be conceded to possess. Its use cannot be withheld in any significant fashion, and to address him by other terms is not to deny him any quality or to insult him.

The teknonym is sometimes used prefixed to the personal name of an individual. A man is not only Tama Awing but he may also be called, if precision is needed, Tama Awing Talan.

II

Certain observers in Borneo since 1849 have reported of peoples other than the Penan that they use complicated systems of names that are adopted at the births of children and at the deaths of certain relatives. In the English literature these have been known as "teknonyms."

Elshout has recorded a number of these "prefixes" *(voorvoegsels)* as used by the Kənyah of the Apo Kayan.[1] Pollard and Banks have recorded in detail the so-called teknonyms used by thirty-eight long-house groups of the Baram district.[2] They use this material, however, for the purpose of establishing ethnological connections between the peoples they deal with, and they do not attempt to describe their use or make any interpretation of them.

No data concerning these names among the Penan were presented by Pollard and Banks. The only reference to such names among the Penan is an observation by Harrisson, Government Ethnologist in Sarawak, in which he writes:

> The naming of persons is also less complex and variable than most Borneo peoples, and although a few big-shots, like Tama Laje, have followed the beginning of the Kenya name-changes (*Tama* prefix on having a child, etc.), nearly all Punans in this area [viz. Eastern Penan in the upper Tuto river] have fixed names. . . .[3]

On the contrary, Penan names are as complex and variable as those of any Bornean people. The suggestions that they have only relatively recently and incompletely begun to imitate the Kənyah, and that it is individuals of importance who change their names, are incorrect. The Penan use very many names of the sort that Pollard and Banks recorded, but I do not call them "teknonyms." The true teknonyms are those that I have described in the last section, and these names are different from them. They form one terminological system with the teknonyms, to which they are complementary, but they are not teknonyms. The occasions on which they are assumed are the deaths of relatives, while teknonyms are assumed in connection with births. One set of names deals with death and the other with life. I shall therefore call these names "death-names."

Penan divide persons in any classificatory category of kinship into "true" and more or less "distant" kin. True kin are the primary referents of the terms of kinship and affinity. Thus an uncle who is the father's brother is a "true" uncle, and a classificatory uncle (father's cousin) is a "distant" uncle. Similarly, a brother's wife is a "true" sister-in-law, while a cousin's wife is a "distant" sister-in-law.

The principle of application of the death-names is that on the death of a true kinsman or kinswoman a Penan assumes a name according to his relationship to the deceased. For example, if a boy's father dies the boy "enters" (as Penan say) the death-name Ŭyau, "father dead," and is addressed by this name by all other

1 J. M. Elshout, *De Kenja-Dajaks uit het Apo Kajangebied* ('s-Gravenhage, 1926), ch. 2.

2 F. H. Pollard and E. Banks, *Teknonymy and Other Customs among the Kayans, Kenyahs, Kelamantans and Others* (Sarawak Museum Journal, vol. 4, no. 15, pp. 395-409, 1937).

3 Tom Harrisson, *Notes on Some Nomadic Punans* (Sarawak Museum Journal, vol. 5, no. 1, pp. 130-146, 1949), p. 139.

Penan. If a girl's father dies she is known as Utan, the death-name for a father dead which is assumed by women.

These are the death-names used by the two tribes of Penan:

	Eastern Penan	*Western Penan*
grandparent dead	tupou	tupou
father (m.)	uyau	uyau (pasi)
(w.)	utan/bənah	utan (bənaḥ)
mother	ilun/apah	apah
uncle (m.)	ulat	ilun
(w.)	ulat	ulat
aunt (m.)	ulat	ilun
(w.)	ulat	ulat
elder sibling	linəng/lubət	linəng
younger sibling	linəng/lubət	lubət
elder cousin	linəng/lubət	—
younger cousin	linəng/lubət	—
nephew, niece	—	bəlɜbui/bui
first-born child	oyong	uyung
second	sade	sadi
third	—	mawat
fourth		sawang
fifth		larah
sixth		akəm
seventh		ukat
eighth		lut
ninth		lumai
grandchild	—	piat
husband	balou	balou
wife	aban	aban
parent-in-law	—	ilun (m.), ulat (w.)
child-in-law	—	—
brother-in-law	—	abing
sister-in-law	—	gələng

Though there is a term to designate a sibling-in-law's spouse there is no death-name assumed at his or her death. In addition to the names above the following may also be used: Təshu, father dead while away hunting or visiting ("you did not see him"); Lənga, wife and all children dead; Təvan, father and father's brother dead ("because you are twice Uyau"); and Lavat, a man living long after many of his children have died. These additional names are used only by the Western Penan and are unknown to the Eastern Penan, who have no names for the deaths of persons in these positions.

The column given as the death-names of the Eastern Penan is not that used by any one group, but is constructed out of the names given me by many groups. For example: many groups give Linəng as the death-name for siblings and cousins, others give Linəng and Lubət as interchangeable names, and one group even gives Abeng as the death-name for an elder sibling dead. Similarly, for "second-born child dead" two groups give the name Uan or U'an instead of Sade, and another group gives U'an as the death-name used at the death of any child after the first-born. Most groups have no name for "nephew dead" or "niece dead," but one group (that which gives U'an for all children) gives Lu'ang for the death of either.

All the nomadic Western Penan groups use identical death-names. Certain Western Penan groups have been settled for varying lengths of time, and some of these have adopted death-names used by the settled peoples they live close to. The longer settled groups do not use the death-names and most people cannot remember what they were: only the old people recognize them, while young people do not understand them at all.

The death-names are terms of address in themselves, so that a man whose grandchild has died may be addressed as "Piat," or a man whose first-born child has died may be addressed as "Uyung." They are also terms of reference when prefixed to the personal name in the way that teknonyms are, so that a man may be referred to as Piat Talan or Uyung Jalong.

They are adopted successively on the deaths of true kin and true affines only. On the death of his father a Penan will "enter" Uyau, but will discard this on the death of his mother, when he becomes Apah, and so on. If a "true" uncle dies he becomes Ilun, but he does not adopt this name if the uncle is not a sibling of one of his parents. He adopts the name Tupou at the death of his father's father, for example, but not at the death of his father's father's first cousin, who is also a "grandparent."

The alternative term Pasi in the Western Penan column is the name given to a younger child when his father dies. Of two sons the elder will be known as Uyau and the younger as Pasi; of three sons the two elder ones will be Uyau and the youngest Pasi; and this principle holds with all numbers of sons, that the majority

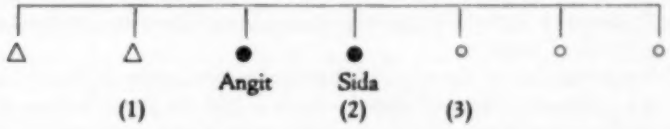
of them will be Uyau and the minority of younger sons Pasi. The case is similar for daughters, who are known as Utan and Bənah.

The Western Penan use the more elaborate system of death-names, and it is with them that I shall deal now, though the same principles apply among the Eastern Penan.

There are differences in the adoption of death-names by children, by childless married couples, and by parents. Children adopt at the appropriate deaths any of the death-names for true relatives except, of course, those for affines and children. Married people without children use these death-names and are also liable to adopt death-names for affines. People who have, or have had, children no longer use any of the death-names that they could have adopted before the birth of their first child, either for cognatic kin or for affines. They assume death-names only at the deaths of their own children or at the death of either husband or wife.

Commonly a Penan will first become Tupou as a small child when one of his parents' parents dies. He retains this name (so long as deaths of other kin do not intervene) through the successive deaths of the other grandparents. Perhaps the father's brother may then die, and at this the child becomes Ilun and discards the name Tupou. This name may then itself be discarded at the death of a sibling or any other relative. In this way a Penan may enter a series of death-names before he has a child, such as: Tupou-Ilun-Tupou-Uyau-Linəng-Bəlɜbui-Abing . . . and so on.

The matter is a little more complex at the deaths of siblings, and another death-name may appear. Let us take the case of Angit and Sida to illustrate the use of death-names in the sibling-series:



The age-order of the siblings goes from left to right. The first boy died, then the second was born and after him Angit. While Angit was still small the second brother died. She did not at that time have a death-name because the first child had died before she was born, and death-names are only adopted at the deaths of kin after one is born. At this death Angit became Linəng, "elder sibling dead" (1). Then Sida was born and Angit dropped Linəng and became again known by her personal name (2). After the birth of Sida another sister was born but died while very small. At this death Sida became "Lubət," "younger sibling dead." Angit could not have become Lubət as well, for the Penan say that this would have been

wrong while she still had a younger sibling, Sida. At this death she became Məlat (3), the death-name for a younger sibling dead used in just this situation. After the assumption of these names by Angit and Sida two more sisters were born, but they both died as babies and Angit and Sida retained their death-names. Had the last-born sister lived they would have discarded their death-names and would have been known again by their personal names. Not that their personal names were abandoned when they assumed death-names: during the time covered by this example they continued to be known on occasion by their personal names, and their parents and others often addressed them by these names. Angit and Sida address each other usually by death-names, sometimes by personal name, but not by kinship terms ("older sibling," "younger sibling").

Neither has discarded a death-name at the birth of one of the later-born sisters. Penan wait an unspecified number of days after a birth to see whether the child will live or die. If it lives they discard their death-names and adopt either personal names or teknonyms, according to their relationship to the new child. The discarding of a death-name does not wait upon the naming of the child. I believe that during these days of waiting the death-names that might affect or be affected by its life or death are not used. Particularly Sida's death-name of "younger sibling dead" would be considered uneasy augury for the life of the new child.

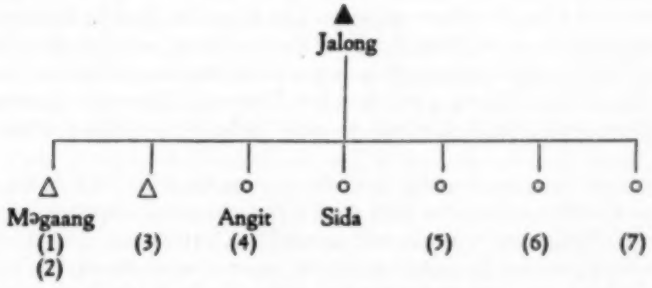
There is a feature of the names in the sibling-series which was absent in the use of the death-names noticed first. In those one death-name followed another, and the only changes were from death-name to death-name. In the sibling-series we see that when a new birth affects the series the death-name is discarded altogether and a personal name alone used. In the former cases there could hardly have been a birth of a new grandparent or even of a new uncle to break the successive adoption of death-names. In the sibling-series there may be an alternation between death-name and personal name.

Although the Eastern Penan use sibling death-names on the deaths of "true" (i.e. first) cousins the Western Penan do not. It is said that this is because, if on the death of an elder first cousin you assume the name Linəng, then your own elder sibling (to whose death the name actually refers) may die. As the list shows, there are no names for deaths of cousins of any remove.

All the above names are used even by married people so long as they have no child; but after the birth of their first child (or, as we shall see, its adoption) they enter the child-series of death-names and no longer enter death-names for grandparents, parents, siblings, etc., or affines. With the first child the parents assume teknonyms, but at its death (or the death of any of their subsequent children) they enter the child-series of death-names. These names for children dead are assumed according to the order of birth of the child that dies, not according to whether it

is the first to die or the fifth to die. Thus, if a man has nine children and of them the first to die is the ninth-born, he does not assume the name Uyung but becomes Lumai; and if the second to die is his fifth child he does not become Sadi but assumes the death-name Larah. If another child is born to him after he has adopted a death-name for one of his children he discards the death-name and becomes known again by a teknonym.

The following is the case of Jalong:



With the birth of his first child, Məgaang, Jalong became known by the teknonym of Tama plus (eventually) that of his son: Tama Məgaang (1). His wife became Tinən Məgaang, and in all subsequent changes assumed the same names as her husband. He could still have been referred to by anyone wishing to be precise as Tama Məgaang Jalong, but in everyday intercourse he would be known merely as Tama Məgaang. His close kin, however, would usually address him by the appropriate kinship term. Then Məgaang died, and Jalong became Uyung Jalong (2). In address he was merely Uyung, but as at any time there may be a number of people using the death-name Uyung he would not have been referred to merely as Uyung (except in a very small domestic circle) but as Uyung Jalong. At the death of his second son he discarded Uyung and became Sadi (3). In the same way as with Uyung he was known as Sadi Jalong and addressed either by "Sadi" or by a kinship term. When his daughter Angit was born (4) he discarded the death-name and became known once again as Tama—this time, Tama Angit. This change, as all the others, was shared by his wife, who became Tinən Angit. Two or three years later Sida was born, but this birth had no effect on the name of either Jalong or his wife, who remained known by the teknonyms referring to Angit. Another child was born but died small, and Jalong and his wife again discarded their teknonyms and entered the death-name for "fifth-born child dead," Larah (5). After this two other daughters were born and died as babies a few days old, and

according to custom Jalong ought to have become Akəm (6) and then Ukat (7) at their respective deaths. But it shows well the lack of rigidity in Penan institutions that Jalong said Larah was enough, that he had had enough death-names and would adopt no more. This declaration of his determined what he was to be called, and no one would have thought of addressing him as Akəm or Ukat.

Another interesting aspect of death-names appears in this case. They can be assumed even by people who are themselves childless, who have adopted children or who have been promised children to adopt. Usun, who is barren, had been promised the latest of Jalong's children and was to have adopted it. Had she done so she would have been known as Tinən Itəng and then as Tinən (whatever the child's name would have been), which are the same terms as teknonyms applied to a "true" mother. Her husband, Usong, would have been known as Tamən plus the rest of the teknonym, indicating that he was the social father of the child and not its begetter.

In the event, they were not able physically to adopt the child, for it died in its mother's care eighteen days after birth (and during this period was given no personal name). Neither Jalong nor his wife assumed new death-names ("What is the use?") with reference to its position in the child-series of death-names. But Usun and her husband, who were by promise and acceptance the child's foster-parents, assumed the death-name Uyung at its death as though they had begotten it. This was done merely on the basis of Jalong's promise to them, for they had in no way taken charge of the child. This is an uncommon case, but it is not irregular. Even here, though, it would have been perfectly proper for Jalong and his wife also to adopt the death-name appropriate to the child's position. Thus for the death of the same child Usong and Usun adopted the death-name Uyung ("first-born child dead"), for they were its foster-parents and it was their first child; and Jalong and his wife could have adopted the name Ukat, for they were certainly its parents and it was their seventh child.

We have seen here that a death-name is discarded at the birth of another child. This principle of a new life giving the right to discard the death-name is also seen in the case of widows and widowers. A widower discards his death-name Aban only when a new child is born to him, not merely when he remarries. Similarly, a widow retains the name Balou after her marriage. It may thus happen that a man bearing the name Aban ("widower") may be the husband of a woman bearing the name Balou ("widow"). Both retain these death-names until the birth of a child to them, or until they adopt a child, when they assume teknonyms with reference to it. Also, in such a marriage, the children of the couple by the previous marriages will continue to bear the death-names relative to their dead parents: the children of the widower will be "motherless" and the children of the widow will be "fatherless."

They retain these names until they enter other death-names or until they are entitled to teknonyms.

It is common that when a man's close kinsman dies he not only assumes a death-name but also changes his personal name. This is the case in both tribes. For example, when the child of an Eastern Penan man died he changed both his death-name and his personal name, from Aban Bələngan to Oyong Bəshiai. There is no obligation of religion or of etiquette to force a man to change his personal name also, and it rests with the individual whether he does or not. It is most common in the case of a parent or a first-born child dying.

It should not be assumed that the Penan can present or use the death-names of the child-series with either ease or accuracy. Occasions of their application to new individuals eligible for them are relatively infrequent, and to use the name once it has been applied to someone requires no thought about the principles behind its use or about the other death-names that with it form the complete system. Unfortunately, I have not been with a group when one of its members has died, and I cannot say what sort of deliberations take place before the correct names for the true kin of the deceased are decided upon. In most cases there would probably be no hesitation at all, but at the deaths of certain children there may well be.

The Penan, when questioned about the names, are very often confused about their correct use. Within one group different answers may be given by different individuals and even by the same individual at different times. For example, an elder was asked what the death-name was for "ninth-born child dead" and, after thinking and mumbling names to himself, said that he did not know. Later he used the word "Lumai" in conversation, prefixed to the name of another man in the group; and when he was questioned about this he turned to his daughter, recounted with her the births and deaths of the children of the man in question, and eventually turned back with the answer that Lumai was the death-name for the ninth-born child.

Although death-names are commonly used as terms of address it is improper and disrespectful to address an older man by one. The actual kinship category to which he belongs is of no importance, and a man who is of the same age as oneself but in the category of "grandparent" may properly and normally be addressed by his death-name. A man considerably older than oneself is addressed by a kinship term or by an honorific relating to his age and experience. Thus Talan, the elder of one group, is addressed as "Piat" by his wife but never by young people.

Certain death-names are used not only as such but as terms of address by those persons to whose eventual deaths they refer and to those persons who will assume them. These are the terms Tupou, Uyau (Pasi), Utan (Bənah), and Apah. A grandparent, and not only a true grandparent, may address a small child as "Tupou," and in this context the name means merely "grandchild" as a term of address.

Similarly, a man may address his son as Uyau and his daughter as Utan, and the mother may address both as Apah. These are then terms of address to children and are used usually by true kin, but they may be used by any intimate kinsman standing in the proper kinship level and of the appropriate age. Normally they are used in coaxing endearments or when the child has suffered some hurt. Strangers may not use these terms to a child, and I have been told that this would harm the parent or grandparent so that he or she might even die, but I cannot say whether this is a general belief. On the whole, though, this use of death-names as terms of address is extremely seldom heard, and it was months after my interest in them was first aroused before I first heard this usage or knew that it was possible.

These are the main features of Penan teknonyms and death names. In different groups some of the names may vary, and in the child-series may be transposed, but the principles of the system are everywhere the same.

III

The teknonyms are in themselves not peculiar to the Penan or to any Bornean people, and I do not feel that I can add anything significant to their interpretation. But as far as anthropological theory is concerned the death-names are a new matter and demand some attempt at interpretation.

Something very slightly similar to death-names is seen in the older English use of "widow" as a title (first cited from 1576 in the S.O.E.D.), the contemporary French and Belgian use of *veuve*, and similar usages in many other countries of Europe. But these are so far from death-names in nearly every respect that they can provide no pointers to understanding. Indications of terminological systems similar to death-names exist in the literature on a few societies in southeast Asia and Australia, e.g. the Andaman Islanders.[4] Though none of them are the same as Penan death-names they make interesting comparisons, and I hope to discuss them in a further paper. The only death-names precisely similar in form and principle to those of the Penan are, so far as I know, those employed by neighboring tribes to the Penan in the interior of Borneo. Some of the accounts of them are inaccurate, most are incomplete, and even when the names are fully recorded there is little detailed description of their use, no exposition of their systematic character, and no explicit interpretation.

Elshout gives a long and very detailed account of the sorts of death-names that the Kənyah of the Apo Kayan use[5] but does not attempt to analyze them. His choice of a name to describe them, however, indicates the way he regards them: he

4 A. R. Radcliffe-Brown, *The Andaman Islanders* (Cambridge, 1933), pp. 111-112.
5 Elshout, *De Kenja Dajaks*, pp. 156-180.

uses the word *rouwnamen,* "mourning names," thus implictly proposing a view of the nature of the death-names which we shall consider later.

Neither have Pollard and Banks made any analysis of the many series of death-names ("teknonyms") that they have recorded. Their article offers no clues of the sort that one might expect from tribes who are culturally so similar to the Penan. There is, however, one point of interest in their article: the Eastern Penan death-names are of the type that is the more common among the complex of tribes using them, while the Western Penan share their system of names exactly with a small number of long-house groups, notably the Səbup. I have visited the Səbup long-houses and have confirmed that the identity exists, but I have not been able to obtain through the Səbup any interpretation that had not occurred to me among the Penan.

I want to consider now certain hypotheses that might be advanced in explanation of the death-names, and which certain facts may be considered to support:

(1) That society symbolically replaces for the bereaved person the kin-referent of the death-name.

For example, a man addresses his grandson as "Tupou" and when he dies society in general (that is, the group) replaces the grandfather "symbolically," becoming in a terminological way a collective grandparent by addressing the bereaved person as Tupou. This is an obvious, pleasing, and plausible hypothesis; but there are a number of objections.

Most of the death-names are not used as terms of address before the kin-referents of them are dead. If the hypothesis were valid an uncle should address his nephew as Ilun (the death-name for an uncle dead), and then after his death the rest of the group would "replace" him by also calling the bereaved person Ilun. But in fact the term used by Western Penan in addressing a nephew is Èlop. In the same way, a man does not address his younger sibling as Linəng but as Lobeh; and the younger does not address his elder sibling as Lubət but as Inəng; a grandparent is not addressed as Piat but as Pu; and the same is the case for Abing, Gələng, Balou, and Aban, for these cannot be used as terms of address by the persons in the kin-positions to which they refer as death-names. In particular, the names of the child-series (which are the ones that affect an individual through most of his life if he has children, and which are therefore possibly the most important) are never used by the children to their parents. The fifth-born child, for example, cannot address his father as Larah. The majority of the death-names, then, cannot be used as terms of address in the way that some of them can and from which the hypothesis derives its first plausibility.

Another difficulty is that it is easy to accept that Tupou can be used as a death-name since it is used as a term of address by grandparents of both sexes. Both men and women address a boy who has lost his grandfather as Tupou, and there is nothing inconsistent in this since grandparents of either sex may address their grandchildren by this term. But it is less easy to accept that when a man uses "Apah" to a child he is in any way replacing the woman who used it as a term of address. Conversely, the same difficulty arises when a woman addresses a boy as Uyau, the term by which his dead father used to address him.

A third difficulty is that the death-names which are used as terms of address are very seldom so used, whereas all death-names are constantly used and often replace all other possible forms of address.

(2) That the death-names are a collective expression of mourning for the loss of a member of a group or of the Penan people.

As we have seen, this is the interpretation made by Elshout[6] in calling them "mourning names."

Mourning means two different matters: to feel sorrow in lamenting the death of someone; and to show the conventional signs of grief for a period following someone's death. These have to be considered separately.

If we concern ourselves with the sorrow that is supposed to be felt or expressed through the death-names there are many difficulties. The names cannot be used in any way to express degrees of sorrow, but are generally used by everybody as normal forms of address and reference, and by and to individuals who may feel little or no sorrow. The length of time during which a term is used is determined by other deaths and by births, not by the degree of sorrow felt or by the duration of acute sorrow. However great a Penan's sorrow he cannot retain the death-name for his eldest child through the deaths of other and more distant kin, even if he has entered Uyung for only one day or even one minute. At the next death that concerns him he has no choice but to assume the new death-name. It is difficult to consider names whose assumption, application, and period of use are independent of the existence or degree of sorrow as mourning-names in this sense. And in fact, going by what the Penan themselves say, the names are not vehicles or evokers of sorrow, but merely classes of persons with reference to the deaths of true kin. If they are asked why deaths should be the points of reference they can tell you only that it is their custom.

Nor does it make the matter clearer if we consider the names as conventional signs of mourning. The main objection to this is that in what are clearly mourning-observances the group as a whole, i.e. most of the people who use the death-names and of those to whom they are applied, has no part. After a death the group abstains

6 *Idem*, p. 161.

from all manufacture for a period of a month; but this is said to be because if they make blowpipes and mats the deceased can be expected to be angry and bring misfortune upon them. The conventional signs of grief are assumed only by very close domestic kin of the deceased. Without going closely into the matter, these consist for both sexes in shaving and cutting certain parts of the hair of the head. Once this is done the signs are completed: there is no set period during which they must be maintained. They are quite independent of the death-names. There is great discrepancy if we class together death-names and conventional signs of grief as mourning-observances. I do not wish to maintain that any society's institutions need exhibit the functional or esthetic fitting-together of overall consistency, but such an inconsistency in Penan culture as this hypothesis demands makes its validity doubtful.

(3) That death-names are a usage for the remembrance of deceased Penan.

Against this there is primarily the fact that no deceased Penan is remembered by name in a death-name. In names that refer to only one kinsman there can be no ambiguity, but in most death-names there may be a great deal. The name Ilun may refer to any number of deceased parents' siblings. If the person being remembered through the use of the name is not distinguished from others with reference to whom the name is also used it can hardly be a case of individual remembrance. It might be maintained against this objection that in fact classes of kin are being remembered; but it then has to be shown that Penan either do so or wish to do so.

Penan in general have short memories for genealogies and concern themselves hardly at all with the past. Those individuals who remember anything of tradition are usually the elders, and those who remember long genealogies are usually old people who have themselves lived through much of them. Penan are concerned to remember and locate as fully as possible the living members of their tribe and people, but they do not occupy themselves with the past. Though they justify their customs by reference to their ancestors, they do not have to remember who their ancestors were to know what their customs should be.

Also Penan do not like to speak of recently dead individuals, and when they do they refer to them not by name but by the use of special terms which are not part of the death-name system.[7] Nothing resembling a death-name is used when they wish to recall to mind either the recently dead or their ancestors.

(4) That death-names are reminders to other members of the group of the economic or other needs of the bereaved and of their duty to meet them.

Penan share all food equally, but when someone dies the group's contributions of food to the bereaved family usually remain the same. The family receives its

7 Rodney Needham, *Reference to the Dead among the Penan* (Man, vol. 54, no. 6, January 1954).

fair share of food and there is no thought of giving it more because of the loss of one of its members. If there are other needs besides food, such as for a man to cut down trees or erect a shelter, then either a close kinsman (out of a number who use the death-names in addressing the members of the family) helps occasionally, or the family allies itself to another family, shares economic tasks with it, and from it gets the specific help it needs because of the death. Death-names play no part in all this. Between the help of close kin and the normal contributions of the group the needs of the bereaved are met independently of the use of death-names.

In some cases, too, the economic position of the family may be improved, as when an old person or permanent invalid dies, but the death-names are still used. The hypothesis is also usually inapplicable to death-names used at the deaths of children.

Take the case of a couple with children living in one shelter with the father of the wife. The father will contribute to this domestic group all that a Penan male can: daily labor, game, and the fruits of his trade in forest produce. But if he dies the couple, although they have suffered a major economic loss, are not addressed by death-names referring to his death, because they have children and take death-names only from their deaths.

(5) That the death-names symbolise the struggle between life and death and the necessity to maintain the group and the Penan people in existence.

This has an attractive plausibility in that in the application and the discardment of some of the names there is an alternation between life and death. If a man's father dies nothing can replace him, and the term Uyau is retained until another death or until the man has a child. Within the sibling-series, however, there is this sort of alternation: death is marked by the application of the death-names, and life is marked by their discardment in favor of the personal name. In the child-series this alternation is even more strongly seen: first the teknonym is assumed at the new life, then it is discarded for a death-name when a child dies, then the death-name is itself discarded for a new life, and so on. In certain cases, then, a death-name may not be discarded until the dead person for whom it was assumed has been replaced by a new life. Figuratively, there is a marking up of points in names: first a point to life, then a point to death.

But, sadly, it will not do. The Penan are unspeculative, and they do not conceptualize life and death, their opposition and their "struggle," in this manner. Although they say "It is good to have children because they replace us," they do not, so far as my understanding of them goes, link this attitude to the death-names. Also Penan do not, and perhaps cannot, conceive of the extinction of the Penan people. It is not a subject of speculation with them, and in their world-scheme there have always been Penan as part of the natural world and there always will be: this is the

way God made the world. In any case, even if Penan could or did think in this way they would still regard it as ridiculous that they should be reminded by the death-names of the desirability of the continuance of the group or the people, of constant victories in lives over the conquests of death which are expressed in the names. They say that the birth of children depends on God's will, and that this cannot be affected by anything they do: it is a matter of fortune, not a matter of names and willing.

It can of course be said that this hypothesis is conceptually the most satisfactory even if it does not accord with what Penan say and what they say they feel. If one were devising a system of names to symbolize the struggle of life and death then it might very well be like this. But in what way this contributes to its validity, or in what way it could be presented as an understanding of the Penan, I cannot see.

I have been discussing Western Penan usages in the main, and though the principles of application are the same in the two tribes it must be remembered that any hypothesis must also try to account for the different usages of the Eastern Penan. For example, they have no death-names for affines and they use far fewer names in the child-series, in spite of extremely similar social organization and culture.

The point to which we have come in our examination of the death-names is this: We cannot invoke sociological laws to explain them, for one can maintain either that there are none, or that what some anthropologists consider such are of no use in this matter. Similarly, we cannot invoke psychological laws. We cannot use expressed purpose to explain them, for this is just what the Penan cannot state, and we cannot properly indulge in sociological teleology. We cannot speak of the symbolic function of the death-names, because the lack of consistent usage of all the names precludes a single type of symbolic relationship that would satisfy, and because they do not symbolize either to the Penan (that is, in a social symbolism) or to the anthropologist (that is, in a sociological symbolism, a coherent relationship of the symbols to function or structure) either replacement (1), mourning (2), commemoration (3), economic obligation (4), or the perpetual struggle between life and death (5).

I do not pretend that I have presented and examined all possible hypotheses, but I think the five I have examined are by their immediate plausibility the major ones that might be offered, and by their congruence with certain facts possibly true. I cannot see that any of them should be accepted.

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THE McKEAN SITE IN NORTHEASTERN WYOMING

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THE McKEAN SITE affords definite evidence for a segment of the sequence of culture horizons in the northwestern Plains which we have presented elsewhere in tentative form.[1] This is a campsite with two well-defined, separated levels containing assemblages of the Middle Prehistoric Period, respectively assignable as Early and Late. A single carbon 14 date for the upper (Late) level reads 3287 ± 600 years. The assemblages agree with those of horizons of other sites in the general region, in particular with Signal Butte I and II. There are, however, discrepancies of dating for the McKean and Signal Butte analogues. A fragmentary skull from the lower level shows characteristics which have been suggested as belonging to Neumann's Deneid type.

Archaeological investigations at the McKean Site were carried out by the National Park Service and the University of Wyoming in the area now inundated by the pool of the Keyhole Dam recently constructed on the Belle Fourche River in Crook County, northeastern Wyoming. Excavation occupied a three-month period in 1951 and 1952.[2]

Above the Keyhole Dam the Belle Fourche flows generally to the east-northeast. In the approximately eleven mile span of the pool above the dam the lower portions of six intermittent tributaries are included. While the pool area and surroundings are typical of the northwestern plains, the annual precipitation in this locality (15 to 20 inches) provided a lush growth of grass and other vegetation as compared with other parts of Wyoming. Summers are hot with frequent high winds, and winters are cold. In the upper part of the pool the country tends to be open with com-

1 Mulloy, *A Preliminary Historical Outline for the Northwestern Plains.*

2 Members of the 1951 field party in addition to the writer included Lawrence Higby, camp manager, Joseph Palermo, Henry Sexton, William Yates, Jarrold Jayne, and David Ross. The 1952 party, in addition to the writer, included Clifford Higby, camp manager, William Weinrod, Max Rardin, James Vance, Jacques Gruber, and Shafik Alfi. Brainard Mears, John Montaigne, and William McGookey, from the Department of Geology of the University of Wyoming, gave freely of their time to aid in the mapping and the geological assessment of the situation. Paul McGrew and Alan Shaw of the same Department kindly identified respectively the animal bone and shell materials recovered. T. D. Stewart of the United States National Museum provided the report on human skeletal remains which is here appended. W. F. Libby, of the Institute of Nuclear Studies, University of Chicago, provided a carbon 14 date. Fred Goehring, Chief Engineer at the Keyhole Dam, and his staff went far out of their way to provide needed equipment, materials, and other coöperation. The efforts of these gentlemen made the investigations possible. The writer is deeply grateful to them.

paratively little relief. The Belle Fourche and its tributaries meander in open valleys surrounded by eroded hills and buttes. Vegetation is principally prairie grasses interspersed with sage brush, prickly pear cactus, and a few other small plants. Along the river are groves of cottonwoods as well as patches of wild plums, chokecherries, and buffalo berries. Near the dam relief becomes greater, and the more level terrain gives way to escarpments along the river and tributaries with higher hills in the background. The stream-side cottonwoods and other vegetation remain, but the valley walls and surrounding hill tops are covered with scanty groves of pine and juniper. Here the terrain is similar to that of the Black Hills which lie to the northeast.

In earlier historic times this must have been an excellent game country, including such forms as bison, antelope, deer, elk, bear, wolves, mountain sheep, as well as rodents and prairie birds.

Of sixty sites in this area three were selected by the National Park Service for excavation by the University of Wyoming-National Park Service Field Party. These were 48Ck2, 48Ck7, and 48Ck23, according to the Smithsonian Institution-River Basin Surveys nomenclature. The writer selected 48Ck7 (the McKean Site) as the first to be investigated. This proved so large and productive that the total field time was devoted to it. Even so only a small part was excavated, though an adequate sample was obtained.

THE NORTHWEST PLAINS SEQUENCE

This extensive stratified campsite is of unusual importance in that it casts light on one of the least known parts of the sequence of prehistoric occupations of the northwestern Plains. This occupation sequence, which the writer has tentatively outlined in detail elsewhere, is peculiar. Prior to 6000 years ago, in an Early Prehistoric Period, the area seems to have been occupied by small groups of buffalo-hunting nomads among whom the Folsom complex and the various complexes called Yuma were important. Indications are strong that the people of this period were specialists in hunting varieties of buffalo now extinct. Following this is a time span of uncertain length for which evidence is lacking. This may indicate abandonment or partial abandonment of the area or simply that remains of occupants have not yet been discovered. Dating from some time before 3500 years ago evidence appears of peoples strongly oriented in their economy toward plant gathering and small animal hunting with little or no emphasis on buffalo. Climatic conditions which made the area unsuitable for buffalo and other large game may have been responsible. At this time two similar and wide-spread complexes seem to have developed in succession in the northwestern Plains: the Early Middle and Late Middle Prehistoric Periods. The two superimposed levels at the McKean Site are manifestations

of these periods. Subsequently a Late Prehistoric Period seems to have involved still different groups, some of which may represent peoples who were formerly of various ceramic-agricultural traditions to the east and who gradually moved westward, abandoning agriculture and much ceramic complexity and taking over a nomadic buffalo hunting adaptation. It is in the Late Period that the buffalo, now *Bison bison*, appear to return in large numbers. Some of these groups were ancestral to peoples of the final Historic Period. This outline is based on the scanty evidence now available: it is highly tentative and will probably be revised. Evidence at the McKean Site of manifestations of the Early and Late Middle Prehistoric Periods sheds additional light on two least known parts of the sequence.

THE TERRAIN AT THE SITE

The site lies on the south side of the Belle Fourche River some three and a quarter miles above the Keyhole Dam and about three-quarters of a mile to the southeast of the river channel, which pursues a general northeasterly course in this immediate locality (Fig. 1). It lies about a mile to the northeast of the mouth of Wind Creek, an intermittent tributary, which follows a general northerly course. Though the site area drains directly into the river, the terrace on which it lies is essentially part of the eastern boundary of the mouth of Wind Creek valley.

The valley within the pool area is open country bounded by low terraces from three to fifteen feet high, most prominent on the east, with rising broken country in the background. The rolling bottoms are almost one and a half miles wide at the junction with the river, from which point they narrow up stream. Considerable meandering of Wind Creek and the river over these bottoms has left frequent old meander scars.

The lower eastern boundary of this valley is formed by a sandstone outcrop (hachured area in Fig. 1), bordered by cliffs up to about twenty-five feet high on the north and west. Other sides of the outcrop merge into high country to the east. To the south is the terrace forming the eastern boundary of Wind Creek's valley, its edge outlined by meander scar No. 1 in Figure 1. Height is somewhat less than twenty feet, with the top somewhat lower than the outcrop, so that a considerable area immediately south of the outcrop is protected from the north wind. This area (Fig. 1, Locality I) was one of the most intensively occupied of the site.

The southeastern part of the outcrop is cut off by a small draw bordered by low escarpments and in which there was no evidence of any modern stream cutting. The protected side of the draw mouth below the low escarpments was also intensively occupied (Fig. 1, Locality II).

Sporadic surface evidence of occupation occurred along the terrace top for at

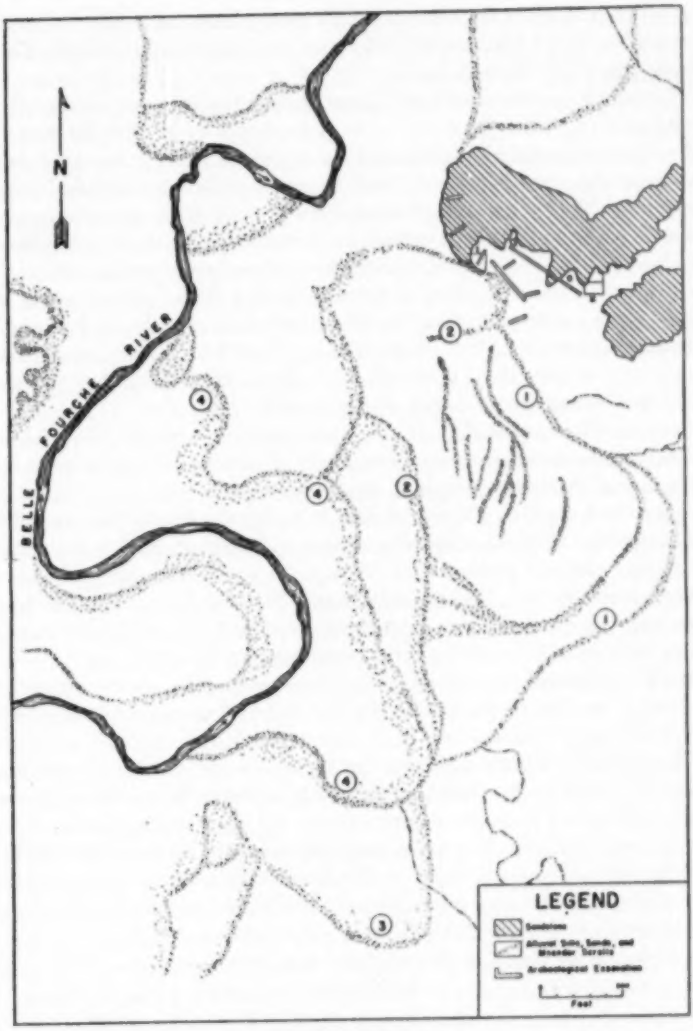

Fig. 1. The McKean site and environs.

least 3000 feet south of the outcrop. Earlier investigations here (Site 48Ck206)[3] did not prove fruitful beyond indicating that an occupation had existed. This is probably part of the McKean Site.

The meander patterns below the terrace are significant, as part of the culture-bearing material of Locality I was cut away by stream action after the second or final occupation. A drag line excavation (twenty-two feet deep) was made in the filled-in meander scar just below the base of junction of the cliff and eroded terrace. The material—a blue clay somewhat banded with small lenses of sand—appeared to be a gradual swamp bottom accumulation deposited in the course of the filling of an ox-bow lake. No artifacts, cultural debris, or other signs of human activity were revealed on or below the surface of the meander scar. This further suggests that meander cutting and later ox-bow lake filling took place after the final occupation of the site, for it is unlikely that occupants would not have thrown cultural debris over the edge of the cliff. It is probable that debris of the occupation period was carried away by subsequent cutting of the meander.

Brainard Mears, who studied the meander patterns in detail, concluded that the scars indicative of site cutting were early in the series of scars now extant. His conclusions are illustrated in Figure 1, where meander scars are labeled in ascending order from earlier to later. Cutting of the terrace edge was done apparently by Nos. 1 and 2. As Nos. 1 and 2 occupy the same area at the critical spot, some cutting by No. 1 may have been done prior to, during, or after the occupation of the site, whereas cutting by No. 2 was done definitely after the final occupation. Mears points out that it is impossible to date the scars but that considerable meander activity took place in the valley after the occupation of the site.

Initial exploration consisted of surface investigation, though previous surveys suggested an unrenumerative site. Six exploratory trenches were cut at right angles to the terrace edge (Fig. 1).

The exploratory trenches disclosed that the terrace top was made up principally of sand and small pieces of sandstone. A small amount of humus-stained soil was found at all levels. This suggests that the terrace top was formed gradually (principally of sand, probably decomposed sandstone from the outcrop and elsewhere, aided by wind and sporadic wash) and had been fixed in place by plant activity. Other than charcoal-stained strata there was no evidence of buried surface strata, natural or otherwise. The charcoal-stained strata contrasted sharply with the unstained strata in profile, being much darker. Microscopic examination of the stained material proved it to contain very little actual charcoal but to consist of grains of sand darkened apparently by contact with charcoal. It would seem that the stained

3 Wheeler, *Appraisal of the . . . Resources.*

strata were formed by human activity in the sandy-surfaced camp, by continually churning the top few inches of surface by walking on it and burying bits of charcoal which stained the ground below. It does not appear, then, that the thickness of the stained strata represents the amount of new material deposited during the occupation of the camp.

In order to be sure that no deeper cultural remains had been missed, Trench 4 (fourth from the south) was first deepened to six feet where it reached living rock at its southwestern end. A datum point, selected arbitrarily (Fig. 2), was given a horizontal value of 0 and a vertical value of 100 feet. From this a grid of five-foot interval oriented to magnetic north was established and each coördinate marked with a stake. Elevation of each coördinate was recorded and a contour map of six-inch interval of the immediate vicinity was made. Maximum extent of the first season's excavation is indicated in Figure 2 by the inner broken line and the second season's by the outer broken line.

Excavation began on the terrace and cliff edge, progressing northward. The eastern end was arbitrarily determined by the line of E010; the western end was the irregular edge of the sheltering outcrop. Successive east-west lines of five-foot squares were removed from top down. Overburden was removed with a shovel to within .1 foot of the upper camp level. The upper level was then cleaned with small tools. Features or *in situ* cultural materials were photographed and recorded by reference to grid lines. Depths were established with a transit. Overburden was then removed to within about .1 foot of the lower level and this similarly treated. Excavation usually continued about one foot below the lower charcoal-stained stratum. All material was screened, and items recovered separated stratigraphically.

During the latter part of the second season operations were removed to Locality II which lay at the sheltered north side of the mouth of the little draw (Figs. 1 and 3). Here at one point erosion had exposed a trace of a charcoal-stained stratum. Elevation and horizontal location of S185 × E645 was established from the original datum, and a grid of five-foot squares laid out. Excavation technique was continued without change.

Because of limited time remaining the first investigation attempted to determine extent of area of occupation by the trial trenches shown in Figure 3. The situation was similar to that at Locality I. The same two distinctly separated charcoal-stained strata were found; this time thicker, deeper, and more separated, together with similar artifacts, debris, and major features. No differences indicated that this was other than an extension of the camp at Locality I.

During the last week of investigations, because the area would be flooded, an attempt was made to obtain rapidly additional information as to size of the camp. With a bulldozer two profiles were cut across the area between Localities I and II

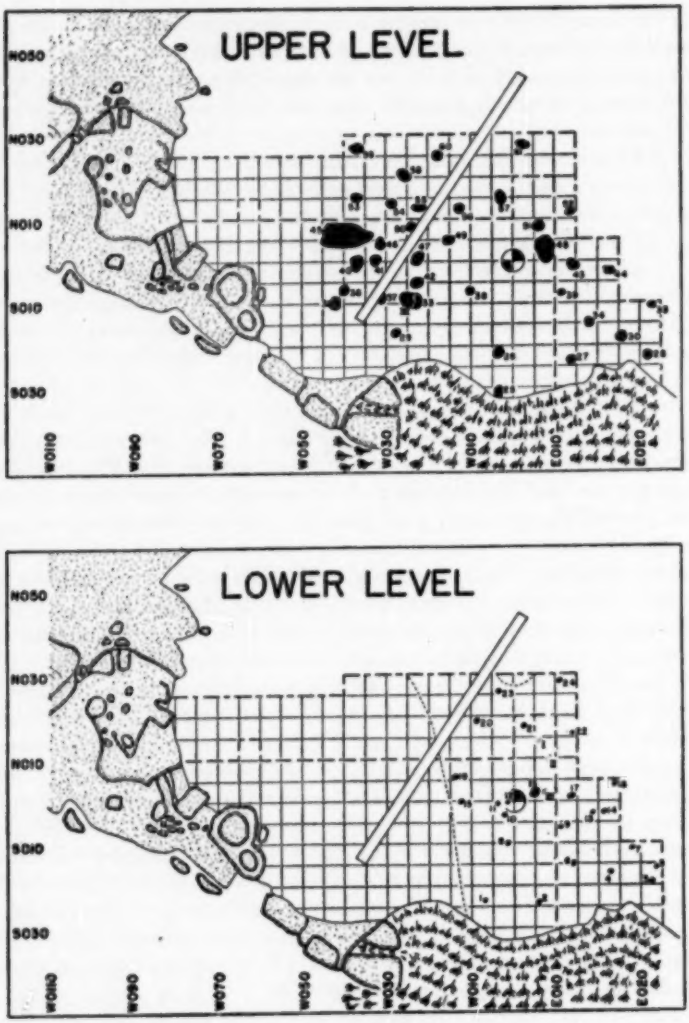

Fig. 2. Locality I at the McKean site.

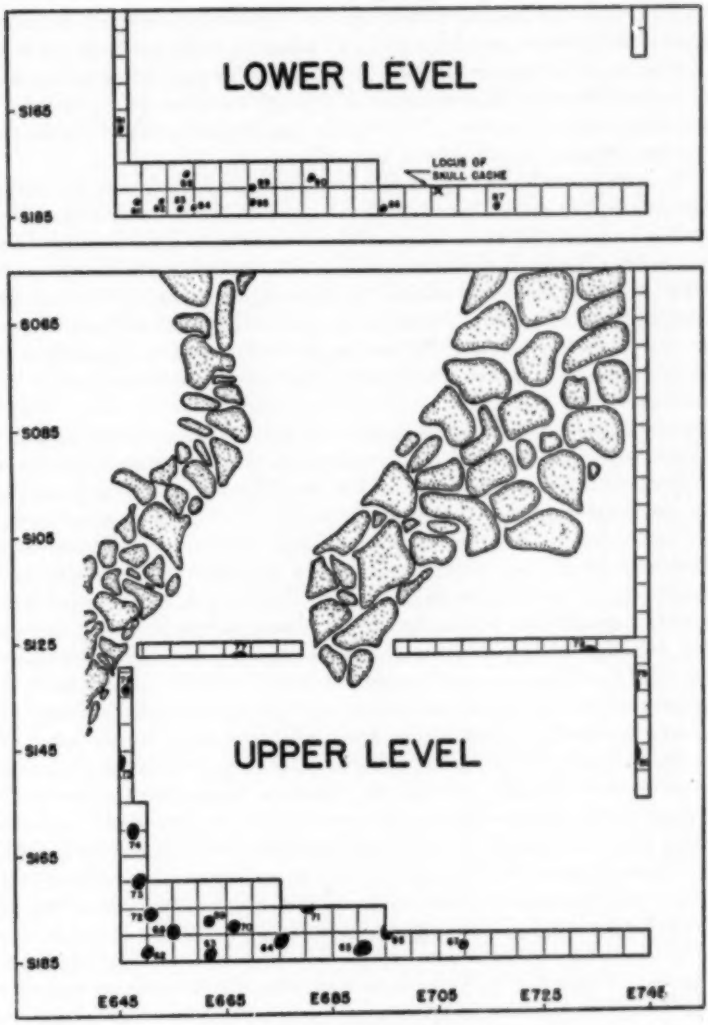

Fig. 3. Locality II at the McKean site.

(indicated by the two long trenches in Fig. 1). One along the edge of the terrace revealed that the two stained strata gradually faded out to the southeast, the lower level being barely discernible for about 50 feet, while the upper continued sporadically and attenuated, to fade out at about 180 feet. Nowhere did occupation approach the intensity of Locality I. This further suggests that Locality I was selected for its more effective protection from the north wind.

The second (northern) long profile along the edge of the outcrop to Locality II revealed sporadic stained lenses principally of Level II. They were located wherever the outcrop or a dip in the surface of the ground provided even a slight shelter from the north. To the south of the small finger of the outcrop which intersects the profile, Level I appeared only scantily: nowhere did concentration approach that at Locality II. Small occupation areas are probably to be found scattered here and there over the whole surface of the terrace, gradually fading to the south as the shelter of the outcrop became less effective. The upper level was of considerably greater extent than the lower.

Investigations revealed remains of occupations of two culturally distinct groups of people well separated by physical stratigraphy. Mixture of materials was extremely uncommon except in a few limited areas. Remains of both give evidence of an exceedingly simple economy and cultural life, which in their general features must have been similar to the way of life of such peoples as the Gosiute of the northeastern Great Basin. Such an economy is generally associated with small nomadic bands or independent family groups. Thus, in spite of the large number of hearths in both levels, it seems unlikely that large permanent camps are represented, but that the spot was one to which small nomadic groups—perhaps not always the same groups—returned intermittently to exploit to exhaustion the economic resources or a particular seasonal economic resource of the vicinity and then move on to allow replenishment. Such resources seem to have included wild vegetable products and principally small game, including *Unios* in the upper level. Lack of evidence of shelter may indicate summer occupation without shelter. On the other hand the interest in protection from the north suggests winter occupation, in which case survival under present climatic conditions without some sort of shelter seems almost inconceivable. Possibly shelters were temporary wickiups of sagebrush or similar materials which left no trace in the unstable sand. There seems too little emphasis on large game to suggest skin structures.

This view of successive seasonal occupation must not obscure emphasis on the distinct gap between the two occupations. The picture is one of intermittent use of the area for many years by the first groups, a long period of disuse, similar use by the second group, followed by another long period of disuse. Further, it should be emphasized that while the remains at both levels are probably to be attributed to

many small social groups who lived there successively and both represent simple gathering economies, the upper and lower levels are significantly different from each other culturally as the following discussion of material culture will reveal.

As Localities I and II demonstrated no significant differences from each other they will be considered together.

CULTURAL FEATURES OF THE SITE

The lower level consisted of a charcoal-stained stratum covering the eastern portion of Locality I (east of the dotted line, Fig. 2) and the southern excavated section of Locality II. It was found to be increasingly thicker and buried deeper to the east, thinning out to the southwest and northward in Locality II (thickness, west to east, .05 to 1.6 feet; depth 1.1 to 4.2 feet). Probably the greater part of the lower occupation level at Locality II lay south of the excavated area.

Its most frequent features were hearths (a total of thirty-four) of three types. Type I, the most common, was a simple irregular surface lense of stained sand and charcoal, with occasional small stones as apparently accidental inclusions. These seem to be the surviving evidences of many such temporary fireplaces—the last made at the site—most of which were obliterated by trampling in the soft sand. Type II—more permanent, but surprisingly small—were uniform semispherical excavations crudely lined with small, irregular sandstone slabs and containing heavily stained sand and finely divided charcoal. Peripheral sand and the slabs were commonly burned red. The slabs had frequently fallen into the pit. Type III—two hearths—may have been like those of the upper level, but a careful check of profiles established their provenience in the lower level with the upper level stratum extending uninterrupted over them. They were eliptical, round-bottomed, basin-like depressions filled with irregular pieces of sandstone mixed with small charcoal fragments and stained sand. Again stones and parts of peripheries were burned red. The only difference between these two and upper level hearths was the larger size of the stones, some up to one foot diameter.

Lower level hearths (except the pair of Type III) suggest a shortage of fuel by reason of their small size and the paucity and finely divided nature of their charcoal. The inference is that these were fires of small plants such as sagebrush and greasewood. In contrast upper level hearths contained much more charcoal, with large pieces, some identifiable as pine. It seems probable that pines were present to the east during the upper level period, but not earlier.

Two cache pits were present in the lower level. One ("Hearth" 4), which may also have contained fire, showed use at two periods. In the bottom of a roughly cylindrical pit (2.4 feet diam., 1.1 feet deep) another circular, round-bottomed excavation (1.4 feet diam., 1.6 feet additional depth) had been made. The diameter

increased slightly below the rim of the lower pit. This lower section had been filled (contents stained sand, one plano-convex scraper, and several chips of worked stone), and the upper portion reused. The few evidences of fire near the surface do not suggest much use as a fire pit.

The second cache pit, less definite in outline, lay at the spot marked "Locus of skull cache" (Fig. 3) at a depth of 3.8 feet. No pit outlines were visible on the exposed lower level surface but in the course of horizontal peeling, at a depth of 4.9 feet, the top of a human skull appeared. Sporadic faint pit outlines failed to reveal exact pit shape. It was probably about 1.5 feet in diameter, somewhat more than 2 feet deep, with the top of the pit almost certainly confluent with the lower level surface. Sand surrounding the skull was harder than elsewhere, while the bones were soft and friable. The remains were fairly well preserved cranial portions of a human skull minus facial portions, lying face downward with top oriented roughly to the north-northeast. Lying alongside to the east were two fragmentary bison *os innominata*. Circumstances of deposition suggest, not an ordinary burial, but perhaps a cache for some obscure purpose. The fact that both the skull and the *os innominata* were each all in one piece and the lack of detached fragments suggest that they were about as fragmentary when deposited as when recovered. Thus they would seem to have been old rather than fresh bones at the time of deposition—perhaps trophies of some sort. There was no indication of artificial alteration. The skull is described by T. D. Stewart in the Appendix.

Resting on the old ground surface of Locality I were three piles of small stones of .8 to 1.1 feet in diameter (Fig. 2). No evidence of burning or charcoal accompanied them. They lay within an area about fifteen feet in diameter. It was originally thought that these might have formed part of some sort of structure foundation, but further excavation disclosed no more.

In the vicinity of N030 × 000 was a small circular depression about ten feet in diameter and about a foot and a half deep (dotted line in Fig. 2). Though this may have been a depressed floor of some kind of structure there was nothing to indicate with certainty that it was not of natural origin.

In the vicinity of N020 × W015 the ground surface was littered with many thin, irregular, flakes of siltstone, apparently rejects struck from a core. The lower level ground surface was littered throughout with small amounts of such debris, as well as a few animal bones and broken and whole artifacts.

The upper level consisted of a similar charcoal-stained stratum almost everywhere clearly separated from the lower by an unstained stratum. This extended over the entire area excavated in both localities. Thickest and deepest in the southeastern sector of Locality I (1.2 ft. thick, 1.1 ft. below present surface), it gradu-

ally thinned and approached the surface to the west and also to the southwest of Locality I (respectively: .1 ft. thick, .2 ft. deep; .6 ft. thick, .5 ft. deep). At Locality II it gradually feathered out to the north and generally was of less depth, though unlike the lower level, it probably reached the escarpment.

Here again the most frequent features were the fifty-six hearths—all large, stone-filled basins which contrast sharply with most lower level examples. They might have been roasting pits for *Unios* or some kind of vegetable products, such as prairie potatoes. It appears as if a pit were first dug, a fire built in it, and the pit probably gradually filled with stones while the fire was maintained. In some cases pits were filled to the brim and in others only partly filled. Stones were principally sandstone fragments (one-half foot in diameter to small pieces), usually partly fire-decomposed, and including frequent metate fragments, stone-working debris, and *Unio* fragments. Such fires would have held considerable heat long after dying, and this may have been the reason for their construction. Alternately, as steaming pits food may have been placed on the hot stones, and covered with earth through which water was poured. Most contained considerable charcoal, much identifiable as pine, in contrast to the lower level. Many samples for carbon 14 analysis were recovered.

Type IV, the common variety, was a round-bottomed pit varying from semi-spherical to irregularly elliptical. Type V was a flat-bottomed basin with straight sloping sides, an inverted truncated cone. Type VI includes only Hearths 45 and 48. These were contained in large, shallow, irregular, excavations of varying depth. Shapes are best revealed in Figure 2. Of Hearth 45 the largest diameter was 12.2 and greatest depth .9 foot. Of Hearth 48 the largest diameter was 5.9 and greatest depth .5 feet. These may have been special large size hearths for cooking food for unusually large group activity.

Hearths 32 and 33 are significant in that they are superimposed and indicate that not all were used at the same time. Hearth 33 was about half filled with stones and the remainder with sand. It must have been long abandoned before Hearth 32 was dug into part of its area.

The upper level surface was littered with stone-working debris, a few animal bones, many *Unio* shells so badly eroded that usually only the thickest part of the articulation remained, and many whole and broken artifacts. Unlike the lower level the upper level surface was not littered with small pieces of unworked sandstone, these apparently having been used in the hearths.

The complex of artifacts and other cultural debris recovered from both levels is as might be expected for simple cultures economically oriented toward gathering wild products and some hunting, especially of small animals. Most material

	Diameter	*Thickness or depth*	*Hearth nos.*
Lower level hearths:			
Type I	.5-1.9 feet	.05-.2 feet	1, 2, 6, 7, 10, 11, 12, 14, 15, 18, 19, 22-24, 81, 82, 84, 87, 89, 90
II	.8-2.6	.4-.8	8, 9, 13, 16, 17, 20, 21, 83, 85, 86, 88, 91
III	Max.3.2,Min.2.6	1.9	3
	Max.3.4,Min.2.5	2.0	5
Upper level hearths:			
IV	1.2-3.8	.4-2.9	25, 27, 28, 30-39, 41-44, 46, 47, 49-53, 55, 57-59, 61-66, 68-72, 74-80
V	2.5-3.6	.9-2.7	26, 29, 40, 54, 56, 60, 67, 73

recovered is stone. Paucity of bone artifacts might be accounted for by lack of preservation, but this seems unlikely as many unworked animal bones are well preserved.

Of stone artifacts of both levels only projectile points reveal a high degree of stylization. Though there are recognizable types in the rest of the material, much seems nondescript and obviously many tools were improvised.

In both levels numbers of projectile points and hide-working tools seem surprising in view of small numbers of animal bones. This might suggest stronger hunting orientation than is indicated by the rest of the evidence. Possibly most hunting was done while camped elsewhere. All materials used were obtainable locally.

From the *lower level* most useful for comparative purposes are 115 whole and broken projectile points. Most common materials are metamorphosed siltstone (48) and quartzite (43).

Projectile points appear to vary around a single norm though the range of variation is so considerable that at least two varieties might be separated. However, all variants appear so closely connected by intergrades that the writer prefers to regard them as variants of a single norm. There is essential unity of type at this site of forms which elsewhere in the Plains are regarded as discrete types. But this is only one of several valid ways in which the material might be conceptualized.

The simplest form is a lanceolate blade, usually with blade edges incurved toward tip and tapering toward base about midway between tip and base. Occa-

sionally sides of the proximal blade-half are parallel. Usually base is sharply concave, though sometimes concavity is slight or absent (Fig. 4, nos. 1-15).

Wheeler has described this variant as it occurs at the McKean Site and elsewhere in the Keyhole area, naming it the McKean Lanceolate Point.[4] In the writer's view this term applies to only a part of a continuous range of variation of shapes.

From strictly lanceolate points the type shades into blades with slight constriction of base sides to form a scarcely perceptible stem defined by a slight shoulder. Sometimes this constriction takes the form of a slight lateral notch, which is to say that the proximal end of the base appears slightly expanded (Fig. 4, nos. 16-30).

Further variation is into specimens with pronounced stem constriction and shoulders. Here again the proximal stem end is sometimes slightly expanded.

All variants have cross-sections usually lenticular, though frequently plano-convex with one side revealing the original flake surface. Blade edges are usually sharp and thin, varying from even and symmetrical to sinuously irregular, with frequent hinge fractures and flakes not commonly extending beyond the blade midpoint. Sharp edges were produced principally by primary flaking and only infrequently has short, secondary, retouch been resorted to along edges. Basalar concavities are produced by short, longitudinal, flakes which sometimes considerably thin proximal ends. Bases and stems or proximal blade edges on lanceolate points are sharp. There is no grinding or other intentional dulling. Largest and smallest points are Nos. 1 and 30 of Figure 4. Thicknesses varied from .3 to .1 inch. It is noteworthy that a few variants of this series (e.g. no. 43) approximate the shape of the peculiar side notched-base notched points which formed a minority type at Signal Butte I[5] and which are somewhat similar to one of the characteristic types of the latest horizons in the northwestern Plains.

There are twenty plano-convex, snub-nosed, end-scrapers (Fig. 5, nos. 10-12, 15-20). Materials are quartzite (5), jasp-agate (5), jasper (2), fossil wood (1), and metamorphosed siltstone (1). It is noteworthy that selection of materials for these tools at both levels seems special, particularly in the minor use of the soft metamorphosed siltstone which is the easiest local material to obtain. Cutting edges of some are rubbed smooth as if they had been used against an abrasive surface, perhaps a dirty hide. With the exception of one tanged specimen (Fig. 5, no. 15), they vary in shape from ovoid to triangular and irregularly rectangular. They are made from flakes with one flat side, the obverse faces modified as shown in Figure 5. Most flakes had bulbs of percussion at their proximal ends, with concavities below the bulbs appearing on their flat sides. Such turned-back working edges

4 Wheeler, *McKean Lanceolate Point.*

5 Strong, *Introduction to Nebraska Archeology*, Pl. 25, I, e.

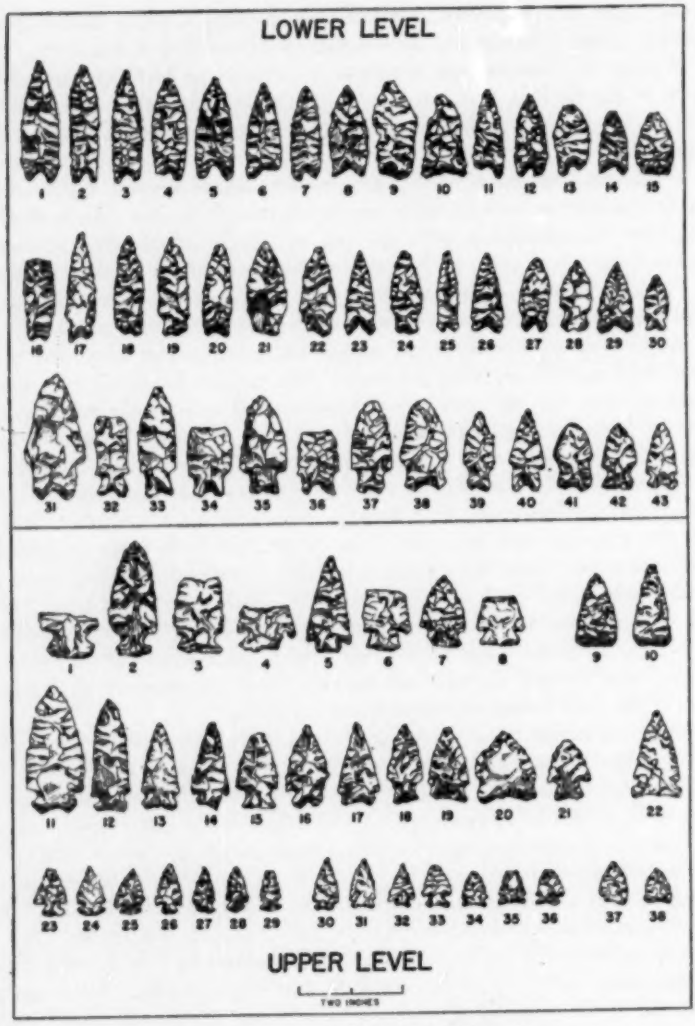

Fig. 4. Projectile points from the McKean site.

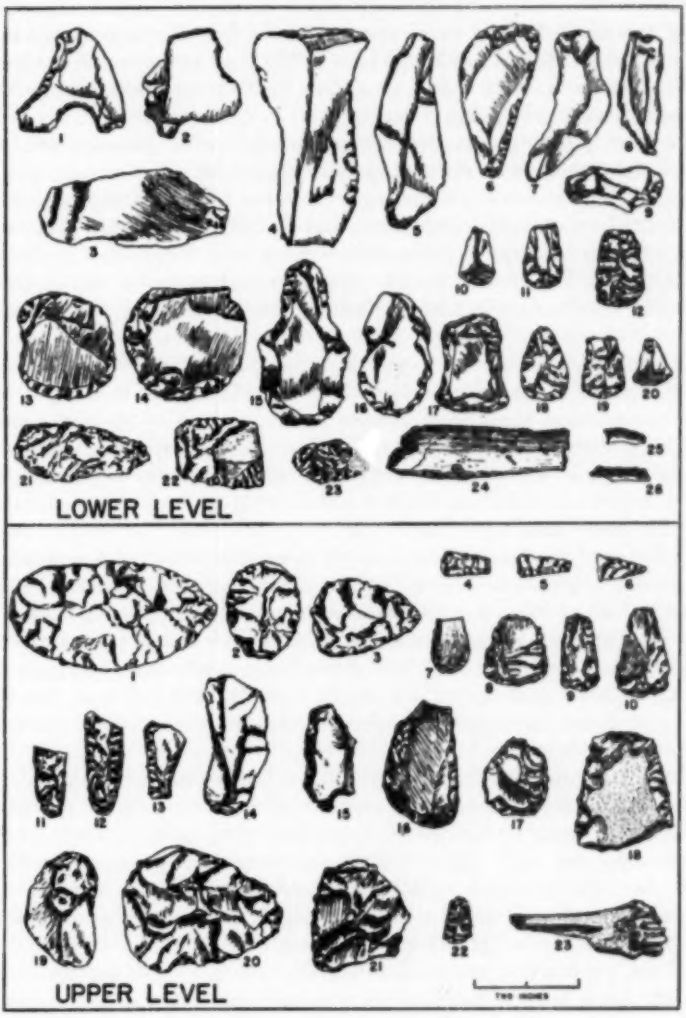

FIG. 5. Other artifacts from the McKean site.

were more efficient. Cutting edges are slightly crescentic. There are no central projections on the blade as are frequent on similar later Plains scrapers. Largest and smallest are Nos. 15 and 20 of Figure 5. Thickness varies from .4 to 1.0 inch. In most respects these are typical Plains hide-working tools which were probably hafted to a straight or L-shaped handle.

Another class of plano-convex scraper includes twelve specimens (all metamorphosed siltstone): ovoid to somewhat irregular disks with one flat and one irregular side, unilaterally percussion-retouched around two-thirds of their edges. Retouches are steep and edges sharp, without evidence of smoothing. These would have made useful scrapers, perhaps hide-working tools. Largest and smallest are Figure 5, nos. 13 and 14. Of these three were found together with a slender, retouched lamellar flake on the lower level surface as if they might have been in a bag.

There are five spokeshaves (metamorphosed siltstone): flat flakes with one or more semicircular concavities unilaterally pressure-flaked into their edges. Most definite concavities would serve to dress a shaft upwards of .75 inch diameter, which suggests dart or spear, rather than arrow, shafts. Always some other part of the flake edge is also unilaterally pressure flaked; one has two concavities, others one. Largest and smallest are Figure 5, nos. 3 and 2, with no. 1 the most finished tool. Thickness varies from .2 to .4 inch.

There are forty-three ovoid to piriform bilaterally flaked knives, primarily of metamorphosed siltstone. Most are broken, usually transversely across the middle. Some broken specimens suggest maximum lengths of five inches or more. They were first shaped by percussion and edges finished by pressure. Cross-sections are fairly regularly lenticular. Some have slender points, while others approach ovoid form. Frequently bases tend to be markedly flattened (as in Fig. 5, no. 22). Some were probably projectile points. Largest and smallest whole specimens are Nos. 23 and 21 of Figure 5.

The twenty-six crude bilaterally percussion-flaked cores without retouch vary from ovoid to piriform and irregular, and lenticular to irregular in cross-section. Materials are again principally metamorphosed siltstone. Some may have been supply cores, but most appear deliberately, though crudely, constructed tools. Function is obscure. Edges are not particularly sharp or regular, and their small size suggests ineffective choppers. One of the largest has one end smoothly polished, possibly by digging. Largest is 4.6 and smallest 2.1 inches long.

These people understood the technique of removing quite large, thin, slender, lamellar flakes from at least partially prepared cores. Probably many projectile points and other similar tools were made from such flakes. Ordinarily they are not the very regular blades of triangular or trapezoidal cross-section, such as those of

the European Upper Palaeolithic, but some approach this form. No fluted cylindrical cores were recovered. A few cores occurred on which striking platforms had been prepared, from one side of which lamellar flakes had been driven.

There are nineteen identifiable knives or scrapers made from such flakes; probably many of the small fragments are from similar implements (Fig. 5, nos. 4-9; 4, largest; 9, smallest). Materials are metamorphosed siltstone (15), quartzite (3), and agate (1). Usually modification consists of unilateral pressure-flaking about the periphery.

There are 116 retouched flakes which suggest knives or scrapers. They appear to be improvised tools, though many have effective edges: stylization seems lacking. Predominant materials are metamorphosed siltstone (69) and quartzite (14). Any flake capable of producing an edge was apparently thought suitable. Pressure retouch is confined to the edge and is almost invariably unilateral, the only departure being a few odd chips on an opposite side to straighten an edge. Pressure-flaked edges are rarely worn smooth as if against an abrasive substance. Length varies from 4.2 to .9 inches.

Manos and metates were used, but numbers indicate lesser emphasis on activities concerned with them than in the upper level. A single complete metate was recovered: a roughly ovoid slab of local sandstone with slightly squared ends, worked to shape by spalling about the edges and grinding of rough surfaces. Both surfaces have been pecked to roughen them, though only one was used. It bears a longitudinal trough, clearly the result of use of a reciprocating mano. The slab is 17 inches long, 9.6 wide, and .9 in maximum thickness. The clearly defined trough is 5.1 inches wide, 11.4 long, and .2 in maximum depth. There are five metate fragments, all local sandstone. Each shows pecking and use on one side. Thicknesses vary from .3 to .9 inch. Evidently portability was a consideration, for thicker and stronger slabs were available. The two mano fragments are of local sandstone. The first is a section of a completely pecked flat stone 2.9 by 1.1 inches in transverse cross-section. It was probably originally about 4 or 5 inches long. One side is rubbed flat; the other bears two definite planes leaving a longitudinal keel caused by reciprocating rubbing. The second is a small, rough fragment of a slab rubbed smooth on one flat side—evidently an improvised tool.

A sandstone disk (.8 inch thick, and 6.9 inches diameter) is of problematical use. Edges have been double-beveled by spalling.

Worked bone is scarce. Among these a fragment of bison rib bears a design of gouged lines of dots (Fig. 5, no. 24). Three fragments of cylindrical bone beads bearing crude transverse incised lines were made of long bones of rabbits or small rodents (Fig. 5, nos. 25-26).

In the *upper level* again the most stylized items are ninety-two projectile points.

A third are quartzite, a quarter metamorphosed siltstone, with other materials. This complex is more diversified than that of the lower level. Particularly significant is the clustering in two rather distinct sizes. While those of the lower level center around a single size norm—which suggests dart points, though they could have served as arrowheads—those of the upper level center about two size norms the larger of which suggests probable dart points and the smaller rather definitely arrowheads. Possibly both weapons were used.

The characteristic point is triangular, corner-notched, with either a concave or convex base. In the larger size there are twenty-three concave and ten convex bases (Fig. 4, nos. 1-8, 11-22). Notches tend to be large and to approach sides rather than bases so that a few examples out of context might be classified as side-notched points. This is particularly evident in conjunction with concave bases, one (Fig. 4, no. 22) reproducing almost exactly the general contours of the side-notched, concave-based points of the later horizons in this region. It appears so definitely a side-notched point that it may not represent part of this series at all but something intrusive. It was clearly in the upper level matrix. Largest and smallest complete points are Figure 4, nos. 2 and 21. Some broken specimens were probably larger. Thickness varies from .1 to .3 inch. Cross-sections vary from lenticular to irregular. The smaller counterparts (Fig. 4, nos. 23-26) are similar except that they tend to be proportionately thinner, notches proportionally narrower, and flaking somewhat more regular. This difference may be simply a function of easier work on smaller points. There are eight convex and ten concave bases. Largest and smallest are Figure 4, nos. 24 and 34. There is no smoothing of bases or notches of these or any other points in the upper level.

Fifteen triangular unnotched points with flat or concave bases fall into two size categories (seven larger, eight smaller: smallest and largest, Figure 4, nos. 9-10, 37-38). These might be thought unfinished projectile points of the previously described type, save that all appear to be completely finished. Of the smaller size two have a shallow notch at one corner reminiscent of obliquely hafted knives (Fig. 4, no. 37).

Flaking on all points tends to be more irregular than that of the lower level. There are more hinge fractures, less reliance on primary flaking to produce the outline, and more emphasis on small peripheral retouching.

At the time of excavation the different size categories suggested the possibility that two successive complexes might be present in the upper level so that special attention was devoted to the problem of stratigraphic differentiation of these points. None could be determined.

There are seven additional points, probably reused, unquestionably of lower

level type. Six are lanceolates with unconstricted bases and one has a constricted base.

There are seventeen plano-convex, snub-nosed, end-scrapers (Fig. 5, nos. 7-10, 16-18). Materials are jasp-agate (9), jasper (4), and honey-colored flint (4). They do not differ significantly from those of the lower level except that none shows any vestige of binding constriction. One is pressure flaked over the whole back. Largest and smallest are Nos. 7 and 18 of Figure 5.

Two larger plano-convex end scrapers are similar to those of the lower level—probably reused items.

A spokeshave of metamorphosed siltstone (Fig. 5, no. 15) is a thin lamellar flake with a concavity .4 inch in diameter unilaterally pressure-flaked obliquely at one end. One border has been unilaterally pressure-flaked to a straight edge. This example was clearly designed for a smaller shaft than any of those from the lower level. Several other flakes with indefinite concave edges were probably also spokeshaves.

Ovoid to piriform, bilaterally-flaked knives or scrapers number 34, and are similar to those of the lower level except that the tendency toward flattened bases is not present and there is a greater tendency toward small, ovoid specimens (Fig. 5, nos. 1-3). Materials are primarily quartzite (18) and metamorphosed siltstone (12). Largest and smallest are Nos. 1 and 2 of Figure 5.

The thirty crudely, bilaterally, percussion-flaked cores are similar in every way to those of the lower level. Five-sixths of these are metamorphosed siltstone.

There is some use of lamellar flakes for knives similar to those of the lower level, but they are proportionately fewer and seem more fortuitous. Some or all of the eight may be reused lower level specimens. All bear a short unilateral pressure retouch on one or both sides; none flaked all about the periphery. Materials are principally metamorphosed siltstone: lengths, 2.6 to 1.7 inches.

Much more characteristic of the flakes here is the occurrence of very thin, irregularly shaped flakes struck one after the other from the edge of a large striking platform. Their thin edges made them excellent knives (Fig. 5, nos. 19-21). Some bear only a use retouch. Others are flaked either unilaterally or bilaterally. The tendency toward unilateral retouching is not so marked as in the lower level. These merge into a larger category of nondescript, fortuitous, retouched flakes similar to those of the lower level. The 164 flakes are metamorphosed siltstone (77) quartzite (33), jasp-agate (17), flint (10), and other material.

Three broken items of problematical use may have been gouges or chisels; two are metamorphosed siltstone, one jasp-agate. They are made of lamellar flakes, each unilaterally pressure retouched on both sides and about the end (Fig. 5, nos. 11-13).

Probable parts of drill blades (Fig. 5, nos. 4-6) include two of metamorphosed siltstone, one of agate. They are slender, bilaterally pressure-flaked point fragments distinguished by being almost as thick as broad. Cross-section is lozenge shaped: edges are unsmoothed. Another peculiar fragment of quartzite may also be a drill. It is bilaterally pressure-flaked and highly similar in general workmanship to a central section of a small projectile point. It has a small notch in each of its four corners. It suggests a projectile point remodeled into a drill (Fig. 5, no. 22).

A tool of metamorphosed siltstone is apparently a fragment of a serrated scraper of a type known to the writer only from similar cultural materials in the Shoshone Basin of Wyoming.[6] It is apparently half of an ovoid, unilaterally percussion-flaked scraper, originally about 3.5 inches long, with one long edge percussion-serrated to produce rounded teeth about .6 inch apart.

Manos and metates are more frequent than in the lower level. There are sixty-nine fragments of metates; sixty-three are of the local rather soft sandstone and six (possibly fragments of the same metate) are of a hard breccia of small, well-cemented particles. No fragments are large enough to give a clear picture of shape. All could have come from specimens like the complete metate from the lower level. They are thin flat slabs (.6 to 2.1 inches thick) with shallow depressions roughened by pecking and with edges shaped by spalling. All were used on only one surface. Apparently portability was important here too. Fragments are all so small as to suggest deliberate breaking, and many specimens were found in hearths.

Of manos four are complete and three fragmentary; two are compact granite, the others rather soft sandstone. Of these four are sub-rectangular or ovoid, flattish tools which had been reduced by pecking over the whole surface. Pecking is usually partly obscured on the single grinding surface. The others are irregularly ovoid, flattish, fortuitous pebbles which show evidence of grinding on one side. None has a longitudinal keel. The largest is 4.6 inches and the smallest 3.2 inches long.

A single fragment of a grooved maul was found in a hearth (material granite: original size uncertain). A complete grooved maul was found on the surface at the site.

The single specimen of worked bone was an awl (original length 3.5 inches) made from the rear metapodial of a small deer. The butt is formed of both halves of the distal articular process: the shaft, broken diagonally, has its most projecting part ground to a point.

Particularly noteworthy in the upper level is the absence of worked *Unio* in view of the large number of unworked shells found.

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6 Mulloy, *Archaeological Investigations in the Shoshone Basin.*

A small collection of artifacts was recovered either from the surface of the site or otherwise without provenience. None represented types not found in situ. Among these was a grooved maul known otherwise only from a single fragment from the upper level. This is an irregularly ovoid close-grained granite pebble slightly larger at one end, 6.2 inches long, 5.1 inches in maximum diameter. It is encircled by an interrupted, pecked, groove which averages 1.1 inches wide and .3 inch in depth. The interruption is .7 inch long. In every way it is typical of those frequently found in later horizons in this region.

The scanty collection of animal bones from both the lower and upper levels suggests that hunting may not have been very important. The following lists of animals, kindly identified by Dr Paul McGrew, gives a somewhat erroneous impression of importance of the larger animals. Actually the bones of animal of rabbit size and smaller were much more common than those of larger animals, but most bones appear as if they had been deliberately pounded into small pieces, perhaps to extract fat. Few whole bones were recovered. With this treatment identifiable fragments of larger bones survived much more commonly than smaller ones. Most fragments could not be identified.

Fragments from lower level:

> *Antilocapra americana* (5), bird (2), *Odocoileus* sp. (12), *Canid* (dog or coyote) (1 jaw), rodent (5), frog (1), rabbit (7), *Bison* sp. (2: with skull cache).

Fragments from upper level:

> *Bison* cf. *bison* (14), *Odocoileus* cf. *hemionus* (11), *Sylvilagus* sp. (2), frog (2), *Canid* (dog or coyote) (1), bird (1).

About 1100 fragments of shells identifiable only as *Unio* were recovered from the upper level. The majority were small portions of the thickest part of the hinge with everything else decomposed. State of decomposition suggests strongly that originally many more shells than this were present and that *Unios* were an important article of diet. No shells were found in the lower level.

CULTURAL AFFILIATIONS OF THE McKEAN SITE

The material and stratigraphy at the McKean Site fit well into the general historical sequence which is gradually appearing for the northwestern Plains, though as might be expected, there are exceedingly puzzling factors involved which cannot now be explained.

The general cultural sequence outlined in the introduction is now tentatively corroborated in whole or in part by nine different stratigraphic sequences, other

than the McKean Site, in widely separated localities. These are Pictograph Cave near Billings, Montana;[7] Signal Butte[8] and Ash Hollow Cave[9] in southwestern Nebraska; Dead Man Cave,[10] Promontory Caves I and II,[11] and Black Rock Cave,[12] all about the shores of the Great Salt Lake in Utah; Billings Bison Trap[13] in central Montana; and Birdshead Cave[14] in central Wyoming. These sequences illustrate in whole or in part the horizons described in the introduction as Early Middle, Late Middle, Late, and Historic Periods. Evidence for their tentative correlation has been presented elsewhere.[15]

It must be emphasized that this evidence does not argue for cultural identity of levels in the sequences but only for a general similarity of horizons, the groups differing in many elements. In large part the correlation rests on changes in projectile point types because these are clearly the most stylized artifacts available for comparison in the northwestern Plains, but the over-all relationship of these sites is bolstered by parallels of a good many other artifacts.

The particular sequence which seems closest to the McKean material and with which comparisons are most fruitful is Signal Butte I and II. Signal Butte I, pertaining to the Early Middle Period, correlates with McKean's lower level; Signal Butte II, of the Late Middle Period, with McKean's upper level.

Comparison between the stone complexes of Signal Butte I and McKean's lower level is as follows. The projectile points parallel each other almost perfectly though Strong classifies his material into several categories. The concave-based lanceolate points are almost identical; lanceolate points with flat bases of Signal Butte I are present in our lower level in proportionately fewer numbers. This may be due to the writer classifying as knives some of the flat-based blades Strong considered projectile points. So too convex lanceolate points of Signal Butte I which appeared more like piriform knives to the writer were so classified. The stemmed or constricted based points of Signal Butte I are highly similar to the McKean examples, judging from Strong's illustration, except that there appears to be a lesser tendency at Signal Butte I toward parallel-sided stems, though such items appear, and greater tendency toward flared bases. The long puzzling side-notched, concave-based points of Signal Butte I occur at McKean as variants of the major

7 Mulloy, *Preliminary Historical Outline*, pp. 37-200.
8 Strong, *Introduction to Nebraska, Archeology*, pp. 224-239.
9 Champe, *Ash Hollow Cave*.
10 Smith, *Archaeology of Dead Man Cave*.
11 Steward, *Ancient Caves*, pp. 1-106.
12 *Idem*, pp. 106-120.
13 Mulloy, *Billings Bison Trap*.
14 Bliss, *Birdshead Cave*.
15 Mulloy, Preliminary Historical Outline, pp. 201-221.

type. The tendency toward plano-convexity at Signal Butte I is also present at McKean.

Plano-convex, snub-nosed, end-scrapers are similar: retouched- and unretouched-based scapers, stemmed, and those with concave sides are present in both complexes. The stemmed scrapers with concave bases of Signal Butte I are not present. The ovoid to piriform knives or scrapers are also present in both complexes. The plano-convex side-scrapers described by Strong may be similar to the group of large plano-convex scrapers in McKean's lower level, but this is not clear. Spokeshaves are present in both complexes and the retouched flake assemblages seem similar, as are the crude, percussion-flaked cores. The manos of McKean's lower level occur at Signal Butte I, but metates were not found in the latter complex.

Items of stone which occur at Signal Butte I but not in McKean's lower level include drills and gravers, a spurred and corner-notched knife, pebble hammer-stones, pestle-like objects, grooved mauls (present in McKean's upper level), an axe, shaft polishers, and hematite and limonite paint.

Items at McKean's lower level but not at Signal Butte I include serrated scrapers and the emphasis on a lamellar flake industry.

The bone and shell complexes are not comparable because of the paucity of such items at McKean. The cylindrical bone heads and incised bone fragments of McKean's lower level also occur at Signal Butte I.

Similarities in features include absence of house structures, presence of cache pits, unlined and stone-lined hearths.

Comparison between the stone complexes of McKean's upper level and Signal Butte II is as follows. The projectile point types are again similar, the major type in each case being a corner-notched point with concave or convex base, together with a minor occurrence of unnotched triangular points. The clear differentiation into two sizes was apparently not present at Signal Butte where most points approximate the larger size at McKean. Plano-convex, snub-nosed, end-scrapers with retouched and unretouched backs are similar, as are ovoid and piriform bilaterally-flaked knives and the complex of retouched flakes. Drills are present in McKean's upper level, but it is not clear that they are like those of Signal Butte II. The manos but not the metates of McKean's upper level are present in Signal Butte II.

Items present in Signal Butte II only are plano-convex side-scrapers, gravers, oval lapstone, battered hammer-stones, and hematite. Those present only in our upper level are spokeshaves, plano-convex chisel-like tools, and grooved maul (present in Signal Butte I).

The single metapodial awl of McKean's upper level is also present at Signal Butte II but the rest of Signal Butte II's bone and shell complexes is not.

Large stone-filled fire pits do not appear at Signal Butte II, and the cache pits and stone-lined fire pits are absent from McKean's upper level.

The *Unios* of McKean's upper level appeared in small numbers at Signal Butte II.

The nature of the similarities between the Signal Butte and McKean sequences is such as to suggest that artifacts of similar though not identical groups are represented. Further evidence is provided by the identity of stratigraphic relationships at these sites and also by a parallel sequence at the sites previously mentioned wherever they contain similar manifestations.

The consideration of absolute dates introduces a puzzling factor with regard to which the writer can only state the facts without offering an adequate explanation. The discrepancy is such as to cast considerable doubt upon the relationships suggested above. The single carbon 14 date for McKean's upper level now available was derived from charcoal from Hearth 50 at Locality I. It is 3287 ± 600 years.[16] If this can be thought of as a mean date for the upper level, which may not be warranted, a rather surprising antiquity is suggested for the lower level for which carbon 14 dates are not yet available. An assumption that deposition was constant at the site—which also may be unwarranted—would suggest an antiquity for the lower level roughly twice that of the upper. It is probably a good deal less than that, though certainly considerably older than the upper level.

Signal Butte I bears a beginning carbon 14 date of 3440 ± 120 years and a terminal date of 2950 ± 200 years.[17] This would make the upper level at McKean roughly contemporaneous with Signal Butte I and not Signal Butte II, as the comparative evidence suggests, and the lower level at McKean a good deal older than Signal Butte I to which it shows cultural similarities. Additional dates from the lower level at the McKean Site may be available in the future and may shed additional light on this problem. The writer would be inclined to question the McKean date if it were not for the fact that recent work in the Shoshone Basin of Wyoming has revealed a series of sites apparently belonging to a single horizon which appear to be very close culturally to the upper level at McKean.[18] Three separate sites of this manifestation bear respectively carbon 14 dates of 3540 ± 220 years, 3350 ± 250 years, and 3506 ± 220 years. These fit very well with the McKean Site.

It is clear from this discrepancy that we do not yet have enough excavated sites

16 Libby, *Chicago Radiocarbon Dates IV*, p. 14.
17 Kulp, *The Carbon*[14] *Method*, p. 263.
18 Mulloy, *Archaeological Investigations in the Shoshone Basin.*

in the northwestern Plains to make definite formulations of relationships. Because of lack of comparative material it is necessary to point out relationships among sites hundreds of miles apart, with the likelihood of the influence of many factors, such as cultural lag, different ecological influences, time-consuming movements, etc., which are not yet understood. Any understanding of the full significance of the McKean material must await the availability of a greater amount of comparative material.

APPENDIX: THE LOWER LEVEL HUMAN SKULL

By T. D. Stewart

The subject of this report is quite fragmentary, as Figure 6, nos. 1-4 demonstrate, and for this reason would not deserve extended consideration, were it not for its documented age and cultural associations. Unfortunately, the specimen was badly broken in the course of shipment to Washington and many of the smaller pieces could not be reassembled. Yet nothing essential seems to have been lost. Indeed, it seems likely that a certain amount of restoration would have been required anyway.

Not much can be added by way of descriptive detail to the drawings of the skull given in Figure 6, nos. 1-4. The general gracility and the sharp orbital margins suggest a female, although the moderately developed supraorbital ridges are not typical of this sex. Age is not entirely certain, part of the breakage having taken place along the sutures and destroyed some of the evidence. Certainly there is very little evidence of suture closure, so probably age at death was around thirty years.

To the trained eye one of the most significant features of this skull appears in the lateral view, namely, the smooth and rather flat curve of the outline between bregma and inion. Note that bregma is practically the apex and that inion is below the Frankfort horizontal. Such an outline is characteristic of skull types with low vaults and stands in contrast to that of the more rounded and better-filled-out skull types with high vaults. Examples of one of the latter types, from Indian Knoll, Kentucky (carbon 14 date 4000-5000 years[19] are shown in Figure 6, nos. 5a, 5b. It is noteworthy that the putatively early Wyoming crania described by Howells[20] seem to have somewhat the same type of low vault. Since the Wyoming crania have no very good claim to antiquity except through their resemblance to "Minnesota Man," it is not surprising that the latter specimen also has a similar profile.[21]

Only a few measurements can be taken on the fragmentary skull under consideration and these are listed, with some comparative data, in the following table:

19 Johnson, *Radiocarbon Dating*, p. 8; Snow, *Indian Knoll Skeletons*.
20 Howells, *Crania from Wyoming*.
21 Jenks, *Pleistocene Man in Minnesota*.

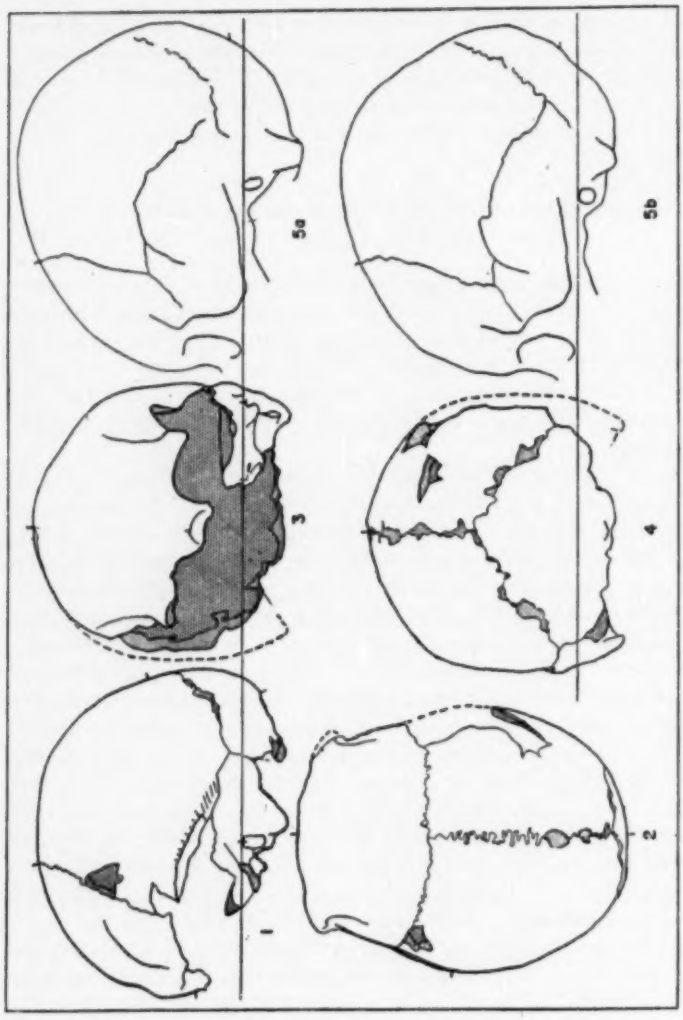

FIG. 6. Nos. 1-4: Simplified stereographic drawing of the McKean skull. (Heavy stippling–interior surface: light stippling–broken edges). Nos. 5a-5b: Tracings from Snow's type male and female skulls from Indian Knoll, Kentucky (Snow, *Indian Knoll Skeletons*, Figs. 10 and 11).

	McKean female	*Wyoming III female*	*"Minnesota Man" female*	*Indian Knoll aver. female*
Maximum length	172 mm	181?mm	179 mm	172.1 mm
Maximum breadth	141? "	138? "	138 "	131.5 "
Cranial index	82.0	76.2	77.1	76.3
Auricular height	108 mm	109?mm	116 mm	115.1 mm
Mean auricular ht. index	69.0	68.3	73.2	75.8
Minimum frontal diameter	92 mm	93 mm	93 mm	88.2 mm

The roundness and lowness of the vault (C.I. 82; mean auricular height index 69) in the McKean skull accord with the description of a recognized Indian variety to which Neumann[22] has given the name "Deneid." His description is based on a series of selected specimens of recent date (largely from Athapascan tribes), and yet he sees in the variety the following points of significance: "It represents one of the last of the major migrations to the New World, it is the group that exhibits the most marked Asiatic connections, it exercised profound influences on both North Pacific Coast and Southwestern cultures, and it contributed from perhaps AD 1200 onward to the differentiation of the Lakotid variety in the northern Plains."[23] If such is indeed the case, the McKean skull provides needed evidence on the antiquity of the Deneid variety.

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22 Neumann, *Archaeology and Race in the American Indian.*
23 *Idem*, p. 28.

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